A TREATISE

ON THE

DISEASES OF THE LIVER,

AND ON

BILIOUS COMPLAINTS;

WITH

OBSERVATIONS ON THE MANAGEMENT OF THE HEALTH
OF THOSE WHO HAVE RETURNED FROM
TROPICAL CLIMATES,

AND

ON THE DISEASES OF INFANCY.

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THE AUTHOR.

PREFACE.

It may be said, perhaps with more justice of physicians than of the professors of any other science, that there is no one, however humble his abilities, who, if he have had opportunities of observing actual disease, may not give useful information even to the heads of his profession. I cannot but look upon it, therefore, as a misfortune, that Indian practitioners should have been so little in the habit of regarding their practical observations as worthy of the attention of their professional brethren; for from this cause it seems to have happened that, although we have several valuable and elaborate systematic works on intertropical diseases, we seldom meet with such concise practical treatises on individual diseases, or classes of disease, as most of the medical men who have been on service are capable of supplying.

Before going out to India, I felt the want of works of this description, and resolved, on my arrival in that country, to keep accurate journals of my own practice and bed-side observations, in such diseases as I might have an opportunity of treating. I have since been induced to submit some of these to the profession; chiefly from the considerations which I have now mentioned, and with no other pretension than that they are the result of actual practice, and may possibly supply a want which I have myself experienced.

The subject of the present short treatise is one of peculiar interest and importance. The liver, which is the largest gland in the body, is extremely complicated in structure, and peculiarly liable to disease. Its circulation differs from that of any other part of the system; having superadded to the usual arterial circulation, a double venous circulation, and containing within its substance no fewer than five sets of vessels. The function of this great viscus seems to be necessary in removing certain impurities from the blood; and the integrity of its secretion is undoubtedly indispensable in the important operations of digestion, assimilation, and excretion. Hence a treatise on the disorders of the liver necessarily involves the consideration of some of the most serious chylopoetic affections.

Nor is this a subject, the interest of which can now be said to be confined to our oriental possessions. Judging from what may almost be called the fashionable prevalence of bilious affections, one would be apt to suppose that something like an intertropical tendency to liver complaints had been imported into this country. Such a supposition, indeed, is not without plausibility. The sources of what are usually termed hereditary diseases may often be traced to some misfortune, neglect, or imprudence in a predecessor. Thus the habits of living of a father, a grandfather, or even of some more remote ancestor, or a cold which he has neglected, may have engendered the gout, or the consumption, under which his descendants suffer. So it is well known that every one who has been much exposed to a hot climate acquires a predisposition to hepatic affections; and when we remember the number of our countrymen, or of their descendants, who annually return from the intertropical possessions of Britain, labouring under the diseases of the climate, and become fathers of families; or who themselves suffer during the remainder of their lives under the morbid affections which they have brought with them, we shall have no reason to be surprised at the diffusion and very general prevalence of diseases, which have not hitherto been regarded as indigenous in the temperate zones.

It is also possible that the present habits of life in Great Britain, and in particular the increase and more general diffusion of luxurious living, may have produced a greater tendency to biliary derangements than naturally belongs to our climate. But be the cause what it may, it cannot be denied that the liver is daily becoming more prominent as a source of disease in this country: and no general medical practitioner, therefore, can safely be ignorant of the intertropical practice in hepatic disorders. In my own practice, since my return from India, I have derived great benefit from keeping my attention steadily fixed on the condition of the liver and duodenum; so much so, indeed, that I feel the less apology to be necessary for the present attempt to communicate to the profession the result of the observations on this class of diseases, which I have now had opportunities of making, both in India and in Great Britain.

It will be observed that I have avoided particular references to the works of other writers on the subjects treated of in the following pages. I have followed this course, as will readily be believed, from no wish to overlook or undervalue the labours of Drs Johnston, Annesley, Abercrombie, and others, to whom the medical profession lies under the greatest obligations. But the truth is, that after having been engaged for twenty years in the active duties of his profession, every me-

dical man, I should think, must feel, as I do, that his knowledge of disease is derived partly from reading and partly from his individual experience and reflection; and that it would be no easy matter to say how much he owes to the one, and how much to the other of those sources. Besides, even were this possible, it is not the object which I have in view; my aim being not to compile a digest of the opinions and observations of others, but briefly to explain the rationale of my own practice, such as it has been, in the different morbid affections treated of in this volume.

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PRELIMINARY OBSERVATIONS.

Inflammation, as a subject of pathological inquiry, affords great scope for hypothetical speculations; and authors of works, otherwise purely practical, have usually been led into the discussion of the many debateable theories, which have been, and still are maintained, as to the nature of this morbid affection. If any apology should seem to be due for a departure, on the present occasion, from the ordinary course, I should say not only that I was unwilling to involve myself at the outset, in a controversial disquisition on topics as to which very possibly no two professional men, who have studied the subject, are entirely agreed; but also that I have not in my own experience found theory either necessary or safe in actual practice.

Educated under two very eminent surgeons, it may easily be supposed that my attention was originally directed more to the surgical than to the medical department of the profession. But on reaching India

I soon ascertained that opportunities of enlarging my acquaintance with the practice of surgery would be comparatively few, and that it was incumbent on me to direct my attention to the equally important branches of the physician's art, in order to enable me to discharge my professional duties in that country. I found the wards of the hospital to which, on my arrival, I was attached, filled with patients suffering under intertropical diseases, which it was necessary for me to study at the bed-side of the patient. The study of the nature of the disease, and its treatment, thus went hand in hand, and a more extensive experience afterwards convinced me, that my patients lost nothing by the circumstance of this duty having devolved on one, who was unembarrassed by the theories of the medical schools. Nothing indeed can be more certain than that hypothetical or theoretical notions are worse than useless in directing practice in intertropical diseases; and if in the course of the succeeding pages any thing like a disposition to theorise should occasionally manifest itself, I can only say, that no theory or conjecture has been hazarded which has not resulted directly from observations made and tested in practice.

It will not, I trust, be reckoned inconsistent with the avowal and disclamation which I have just made, to premise a few words concerning inflammation, considered with reference to the effect of that morbid condition on the different textures of the body. This is a subject to which too much attention cannot be paid; and it is under that conviction that I have ventured to add another practical treatise on hepatic affections to those which we already possess. Before pro-

ceeding, however, to the consideration of certain distinctions which seem to me to have been overlooked, it is proper, in order to prevent misconception, and also to render the distinctions at which I point intelligible, that I should briefly advert to certain characteristics of inflammation.

When a membrane which, in its healthy state, is colourless, becomes red, hot, and painful, it is said to be inflamed; and on inspection, it is found that there is a net-work of beautifully injected arteries where no blood-vessels were previously perceptible. We know that these are not newly created vessels, but that they are the capillary arteries of the part, so enlarged or altered by the existing morbid affection, as to admit the red or grosser blood, instead of the colourless fluid which usually circulates in them. This phenomenon is usually accounted for on the theory of the *muscularity of arteries*. But whether we regard the separation of the colouring matter from the blood circulating in the capillary vessels, which takes place during health, as merely mechanical, or look upon it as a vital action implying something resembling an *elective* power in these vessels, it seems clear that an increased muscular activity will not account for the change of calibre which occurs in inflammation. On the contrary, the natural effect of such action, according to our preconceived notions on the subject, should be, to *exclude* rather than to *admit* a grosser fluid than that usually circulated. But it has been supposed that the increased muscular action is in operation at a point beyond the inflamed part; in other words, it is assumed that there is spasm in the

extreme termination of the capillary vessels,—a more plausible notion, undoubtedly, if it be held indispensable to ascribe the phenomena of inflammation to muscular action.

And here I may be permitted to hazard a single remark on this much controverted subject. Without attempting to deny that these vessels have an action peculiar to themselves, I cannot but look upon it as unfortunate, with reference to the different theories of inflammation, that the *contractility* of arteries should have received the name of *muscularity*. Were the arteries really muscular, the terms *increased action* and *spasm*, so frequently applied to these vessels, would be appropriate. But the almost synchronous action of every artery in the body does not appear to me to be an explainable result of muscular action; for had the blood to pass through a series of muscular tubes properly so called, the impetus of the heart's action, instead of being almost instantaneously communicated to the most remote artery, would be felt in the more distant arteries after a considerable interval. Again, were the arteries liable, as is supposed, to spasm, instances would occur of partial interruptions of the circulation of the blood; and the death of a limb or other part, from spasm in its nourishing artery, would be of common occurrence. That no such cases are on record, must be regarded as something very like proof that this important characteristic of muscularity does not belong to arteries; and certainly, without pushing the argument farther, these are considerations sufficient, in my opinion, to render theories, whether physiological or pathological, based

on the muscularity of arteries, inadmissible as guides in practical inquiries.

For my own part, in attempting to account for this morbid affection, I have not yet been satisfied of the necessity of losing sight of the diseased part itself. The capillary or secreting vessels, in a healthy state, clearly have the power of separating or electing those of the component parts of the blood which are necessary for functional purposes. In inflammation, on the other hand, those vessels having apparently lost this power, and become to a certain extent inert tubes, a stream of blood is admitted, for the circulation of which they are not calculated. That this loss of tone in the capillary vessels results from a failure or disturbance of the nervous agency through which their functions are performed, I have no doubt; at the same time, I am neither prepared nor inclined to hazard an hypothesis on that subject, my object at present being rather to ascertain, as nearly as possible, the actual condition of inflamed capillary vessels, than to involve myself in speculations on nervous agency.

But inflammation is not confined to parts in which pellucid blood only is circulated, for it occurs in portions of the body in which the circulation seems to consist entirely of red blood; or at least it is certain, that the results or usual concomitants of inflammation occur where there is little appearance of capillary circulation,—a fact which I think of very great, indeed of paramount importance, in our present inquiry. The professional reader is aware that the *terminations*, as they are called, of inflammation are most materially influenced by the texture of the part inflamed. He

knows that an inflammation of the membranous covering of a gland is liable to terminate in attachment to neighbouring parts, or to throw off effusion; whereas inflammation in the substance of the gland will probably terminate in suppuration. These are results so opposite, that they might almost be attributed to entirely different diseases. But without carrying the distinction so far, it appears to me that inflammation of a part in which, while in health, colourless blood circulates, differs in symptoms, in course, and in termination, from the same disease when seated in parts of which the healthy circulation consists of red blood. How different, for example, are the symptoms, course, and termination of pleuritis and of peripneumonia. Thus, a man is attacked with severe pain in the right side, which renders respiration almost impossible. He has fever, and all the other symptoms of inflammation within the chest. We at once ascribe such acute symptoms to inflammation in the covering membrane of the lungs, or the lining membrane of the chest, and we endeavour to produce *resolution.* If we fail in this, and if the case be one of pure pleuritis, adhesion or effusion will ensue. Again, a man has an attack of shivering, followed by irregular feverish symptoms, with slight cough, difficulty of breathing, and a dull uneasiness in the chest. His pulse gradually rises and becomes thready, hectic and colliquative sweats ensue, and after a few weeks he dies, and is found to have abscess in the lungs.*

* Had my present object been to treat of inflammatory affections of the chest, I should have endeavoured to point out the

But in no organ is this distinction so strikingly marked as in the liver. Such cases as the following have each received the name of *acute hepatitis*. An intertropical sportsman has been much exposed to fatigue; he has been snipe-shooting during the heat of the day, under an unclouded sun, and up to his knees in water. He is suddenly seized with excruciating pain in the right hypocondrium. As if struck with the sun, he is unable to move, and is carried to his quarters in a litter. He is found to be in a state of high fever; and his right side is so exquisitely painful that even the weight of a single sheet is hardly indurable. Forty ounces of blood are drawn from his arm, and thirty leeches, followed by a large blister, applied to his side; and by pursuing a well-managed course of antiphlogistic treatment, he is in a few days restored to health—*resolution* has been accomplished. Or, if the result prove less favourable, there will remain weight and uneasiness in the side, and he will become a tropical valetudinarian; *adhesion*, in this case, having most likely taken place between the covering membrane of the liver and the peritoneal lining of the diaphragm, or abdominal walls.

Again, a man is attacked with shivering, followed by feverish symptoms, which are relieved. His illness is pronounced to be a "bilious attack;" but his

distinctive symptoms of inflammation of the pleura, inflammation of the parenchymatous substance of the lungs, and inflammation of the mucous lining of the air-cells of these organs: diseases essentially different in the phenomena which they exhibit, in the effects which they produce, and in the treatment which they require.

tongue is white, his pulse tense, and his bowels irregular; and after eight or ten days he is again attacked with shivering. The case is supposed to be one of irregular ague, and he is treated accordingly. His countenance now assumes an earthy hue, and he is evidently in a state of bad health. But he is told that "a course of tonics, and aperients, and change of air, will set all right." He travels by easy stages to the sea-coast, becomes worse on the road, and, by the time he reaches the end of his journey, is obliged to confine himself to bed. His pulse is now stationary at 120, he has a clammy skin, a dirty soddened tongue, his bowels are in great disorder, and although he probably has severe spasmodic twitches in the abdomen, there is nowhere any fixed pain. This goes on for some days, the patient settles down on his back in bed, his skin becomes clammy and wet, he falls into a state of low delirium, and dies from effusion in the brain. An abscess containing some pints of matter is found in the centre of his liver.

It is cases such as these, and every practitioner must have met with them, which have led me to the conclusion that inflammation, when seated in diaphanous membranes, or in parts in which the healthy circulation consists of colourless blood, differs in symptoms, course, and termination, from the same affection when it occurs in parts in which the vessels, when in health, convey red blood. The distinction I regard as of sufficient practical importance to justify the subdivision of phlegmonous inflammation into what may be termed *sero-phlegmon* and *puro-phlegmon;* to which may be added *muco-puro-phlegmon;* the first

making its attack on naturally colourless parts, and possessing all the characteristics of inflammation, viz. unnatural redness, heat, pain, and swelling, and having a tendency to end in effusion of serous fluid; the second being that affection in those vascular parts in which, the healthy circulation being already red blood, there is little or no apparent change, no great increase of heat, in which the pain when present is obtuse, and where there is a tendency to the deposition of *pus;* and the third attacking mucous surfaces, in which there are pain, heat, swelling, and unnatural redness, terminating in change of secretion and ulceration.

Sero-phlegmon, according to this classification, will take place only where there are colourless capillary vessels, which in a state of health exclude red blood. It is accompanied with pungent pain, because the vessels are over-distended, and contain a foreign fluid; and by swelling, because the capacity of the vessels is increased, and probably because their coats, and the surrounding cellular tissue, are tumified, in consequence of the irritation produced by the unnatural state of the circulation. The causes of the increase of heat are more obscure. It is unnecessary, however, to weigh the conflicting theories which have been broached upon this subject. We find that the mere change of the circulating fluid (as in blushing) materially increases the temperature of the skin; the altered condition of the circulation, therefore, will account so far for the presence of this symptom, the red arterial blood being hotter than the colourless fluid. But this is insufficient to explain the whole of the increase of temperature in a morbidly inflamed part;

and, as in many other instances, the true explanation must be sought in the inscrutible operation of the laws which regulate the vital principle. The terminations of this description of inflammation, as already hinted, are resolution, adhesion, and effusion. Mortification, which is generally classed as a termination of inflammation, is not peculiar to that affection, but will follow any disease or accident which destroys or greatly diminishes the circulation of a part.

Puro-phlegmon, again, or suppurative inflammation, being a morbid change in blood-vessels, in which the natural circulation is red blood, is not attended with prominent symptoms. The capacity of the arteries is probably increased, but their contents are apparently the same. Here, as the circulating blood is not perceptibly changed in character, the sensation, at least, of heat, is not perhaps increased. Resolution and suppuration are the terminations of this species of inflammation. The formation of matter may be indicated by a feeling of pulsation in the part, but, generally speaking, there is no other topical symptom. There are, however, constitutional symptoms; the suppurative process being marked by alternate fits of shivering and fever.

Muco-puro-phlegmon, which I have classed as a third species of inflammation, appears to me to be modified by its occurring in parts in which the capillary vessels are adapted to the twofold purpose of circulating either red or colourless blood, as functional purposes may require. I shall not have occasion, however, to consider muco-puro-phlegmon while treating of hepatic affections; and I have referred to it merely

as deserving of attention in the classification which I have ventured to suggest.

The preceding observations appear to me an appropriate introduction to a Treatise on Inflammation of the Liver. In the morbid affections of that organ the distinction which I have endeavoured to draw between *suppurative* and *adhesive* inflammations is particularly well marked; nor is this a distinction interesting to the speculative inquirer only. On the contrary, it is well worthy of the practitioner's best and most anxious consideration. Within the tropics, as connected with the nature and treatment of hepatitis, I have found the distinction to be of the utmost importance; and in every climate it merits attention in treating this disease, as well as pulmonary affections, and indeed all deep-seated inflammations.

I.—SERO-HEPATITIS.

ACUTE INFLAMMATION IN THE PERITONEAL COVERING OF THE LIVER.

This is a disease which at once forces itself into notice; and although it is in some cases liable to be confounded with pulmonary affections, it is not generally obscure in its diagnostic characteristics.

Symptoms.—Those which are peculiar to this affection, in whatever part of the liver it is seated, are, 1. A sudden attack of excruciating pain in the region of the liver, often so severe that the weight of the clothes is insupportable. 2. High febrile symptoms, compelling the patient immediately to confine himself to bed. 3. The stomach is irritable, and the biliary secretion is generally increased. 4. The patient cannot lie on the left side.

These symptoms are a good deal influenced by the portion of the membrane which is affected. When the disease is seated on the upper convex surface of the liver, there may be great difficulty in distinguishing it from a case of pleuritis. It may be observed, however, that within the tropics, where almost every morbid affection is ascribed to the liver, an opposite diagnostic mistake is more likely to occur. When the membrane covering the upper sur-

face of the liver is inflamed, the pain is referable to the chest, there is difficulty of breathing, and it is evident that the patient refrains as much as possible from using the diaphragm; there are also dry cough, and symptoms of obstruction to the pulmonary circulation. In short, there may be every reason to believe that the pleura lining the base of the right lung, or the diaphragm, is affected with inflammation; so that there will often be no small difficulty in deciding whether the affection is pleuritic or hepatic. Fortunately it is not a question of much importance, as its decision will have little influence on the treatment. In hepatitis there is commonly irritability of the stomach and duodenum, and there is always more sensibility to pressure under the margin of the ribs than when the affection is within the chest. In liver complaint the patient suffers least when he lies on the right side. In pleurisy the patient cannot lie on the side affected. The pain over the clavicle may occur in both of these affections.

When the covering membrane of the outer edge of the liver is involved in inflammation, the external symptoms, if I may term them so, are much more prominent. Pressure on examination is not endurable; and if the patient be thin, the painfully sensible margin of the liver may be perceived, leaving no doubt as to the source of suffering. Disease in the colon, however, will lead to mistakes with reference to this portion of the liver; and as affections of these two parts require a different mode of treatment, it is necessary to avoid hasty conclusions. In inflammatory affections of the colon, the pain, although fixed, varies more as to intensity than

in sero-hepatitis. It is attended with tenesmus. Dysenteric symptoms are invariably present, and the accompanying fever is generally much more moderate in the intestinal affection than in that of the liver. It must be recollected, however, that hepatitis is frequently attended by dysenteric symptoms, and some have even supposed that dysentery may be regarded as a necessary attendant on hepatitis. The bowels, of course, will be affected in disease of so extensive and important a chylopoetic viscus as the liver. But farther than that the colon and liver involve each other in disease, from juxta-position, there is not, in my opinion, any necessary connection between dysentery and hepatitis.

But it is not only *inflammatory* affections of the colon which may mislead as to existence of hepatitis. Many who have been exposed to tropical climates, or other causes of hepatic affections, acquire a morbid sensibility of the liver, or of the great gut, which sometimes becomes so intense as to give rise to nearly all the symptoms of acute sero-hepatitis. I have seen cases in which this morbid sensibility has been treated as inflammation, the symptoms being of course aggravated by anti-phlogistic remedies. We must in such circumstances be guided by the state of the pulse and the skin. The febrile symptoms seldom run high when the pain referable to the liver arises merely from morbid irritability; and it is valuable as a discriminating symptom, that, though the pain of irritability is much aggravated by slight pressure, it is relieved when the pressure is increased. As the treatment of inflammation and morbid irritability is very different, it is of

the greatest consequence not to mistake the one for the other.

When the left lobe of the liver is the seat of inflammation, the case may be mistaken for one of Gastritis; the pain is in the situation of the stomach, and this organ is extremely irritable. Idiopathic inflammation of the stomach is a very uncommon disease; and within the tropics, Gastritis is seldom even thought of where there is no local injury likely to produce it. I shall however take occasion to introduce a case in the sequel, in which an affection of the stomach had been for years ascribed to the liver. In Gastritis, the pulse, although extremely quick, is not full, and is liable to intermissions. Vomiting precedes the severity of pain, which it much aggravates. The pain is also augmented by taking any thing into the stomach. In inflammation of the liver the pulse is quick and full, and the vomiting seems the result of the pain, and is usually caused by sympathetic irritation of the stomach.

When inflammation is seated in the peritoneal coat of the concave surface of the liver, the diagnostic symptoms, from the number of important viscera which lie in contact with this part of the liver, may be very obscure. There is more reason, however, to dread that affections of the pylorus, duodenum, or pancreas, may be ascribed to the liver, than *vice versa*. The passage of a gall-stone is sometimes mistaken for acute hepatitis. In cases of gall-stone, the pain, although excruciating, is little affected by pressure: it is limited to a small space; there is seldom bile in the discharges from the stomach or in the alvine dejecta,

and the pulse is seldom affected until late in the disease. Inflammation on the lower surface of the liver is very generally attended by jaundice; there is pain between the shoulder-blades, and great irritability of the stomach and duodenum.

The symptoms, then, of Sero-hepatitis are acute pain referable to some part of the surface of the liver; pain over the clavicle; difficulty of breathing; dry cough; high fever; great thirst, and irritability of the stomach and bowels; urine high coloured, depositing a lateritious sediment; with pain much increased on pressure, and by attempts to lie on the left side.

Causes.—Within the tropics, the most common of the immediate exciting causes of acute Hepatitis is severe exercise during the heat of the day; such, for example, as a day's snipe-shooting, in which, while the sportsman is wading up to his knees in water, he is exposed for several hours to a vertical sun. Over-fatigue of any kind, a blow on the side, or any severe general injury which forces a man in full health and strength to confine himself to bed, is very apt, within the tropics, to give rise to an attack of acute Hepatitis. In more temperate climates, in some idiosyncrasies, a neglected cold, sleeping in damp clothes, &c. occasion acute inflammation of the liver.

The predisposing causes are common to all hepatic affections. Many attempts have been made to account for the predisposition to liver complaints which is induced by a residence in hot climates. It is not my present intention to analyse the theories which have been proposed to account for this phenomenon. To me it appears, that the effect which an undue at-

mospheric temperature has in increasing the preponderance of venous blood in the system, may, in some degree, explain the liability of a great venous organ like the liver to functional derangement, and to morbid affections, within the tropics. But whether we are to consider this preponderance of venous blood as merely a mechanical effect, arising from diminished constriction on the veins, or as a peculiarity depending on the nature of tropical climates, is a question which I shall not here attempt to decide.

To whatever it is to be ascribed, this is at least certain, that residence within the tropics is a most powerful predisposing cause of disease in the liver. Next to this may be ranked the effects of intemperate habits of drinking or gluttony; this last, however, being more apt to produce deep-seated disease than sero-hepatitis. Some persons are constitutionally predisposed to hepatic affections, and in them severe fatigue, a debauch, or other cause of general debility, may give rise to acute hepatitis.

TREATMENT.—It is with a view to this, the most important object in an inquiry into the nature of disease, that I have ventured to propose that a line of distinction should be drawn between inflammation of the coat of the liver, and inflammation in its substance. For it seems to me that a due regard to that distinction may enable us to reconcile the difference of opinion which exists among good practitioners as to the treatment of acute hepatitis.

The sanative effects of mercury in functional affections of the liver, and in diseases within its substance, may be regarded as established; but many physicians,

particularly in this country, are of opinion that mercury ought not to be exhibited in acute hepatitis. And, so far as my own experience goes, I have not found it necessary, in sero-hepatitis, so long as the disease is acute, to put the system under the influence of mercury. I have reason, indeed, to believe, that much harm may arise from "*pushing mercury*" in cases in which the acute inflammation is confined to the covering membrane of the liver; and of this the following case supplies an illustration.

Several years ago, while in India, I was called to a station at some distance from my own, to see a civilian of high rank, who was considered by his medical attendant to have fallen into a state of great danger from an attack of hepatitis. This patient had been about twenty years in India. I found him in a state of low delirium, with an alarming tendency to dosing; his pulse was upwards of 120, thrilling and weak; his face swollen to double its natural size; and his mouth, throat, and tongue, in a terrible condition from ptyalism. I was told that he had been suddenly seized with excruciating pain in the right side, with fever, and all the other symptoms of acute hepatitis; that he had been very largely bled generally; that local depletion with leeches had been carried as far as possible; and that he had also been blistered: By those means it appeared that the pain had been completely removed from the side. Calomel had likewise been administered to a great extent; and the mouth had suddenly become affected, attended with great pain. The swelling of the mouth, tongue, and throat had increased to the state in which it was when I first

saw the patient; but the pain had suddenly ceased, and delirium and comatose symptoms had supervened.

The hepatic affection having been thus to all appearance mastered, the dangers now were sphacelation of the mouth and throat, and cerebral effusion. We therefore turned our whole attention to the head and circulation. But every attempt to lower the pulse failed, and the delirium, though it intermitted, was not manageable. The patient sunk and died; and on examination after death *the liver was found perfectly sound.* The inflammation had been overcome by the decided antiphlogistic practice pursued; and although the exhibition of mercury was according to rule, the case was not in my opinion one which called for the exhibition of mercury as a sialogogue; and the patient had perhaps been too long exposed to an Indian climate to admit of even the necessary depletion with safety, far less the deleterious effects of "pushing large doses of calomel."

In the treatment of sero-hepatitis, it is not necessary to put the system under the influence of mercury. The extreme irritability of the stomach may render the exhibition of a scruple of calomel necessary; and this medicine is valuable in combination with purgatives. But salivation is in my opinion uncalled for, and may, as in the above case, become positively injurious in acute sero-hepatitis.

The objects to be attained are, 1*st*, to weaken the general force of the circulation; 2*d*, to allay the irritability of the stomach; 3*d*, to overcome the morbid condition of the capillary vessels; 4*th*, to act on the

bowels; and, *5th*, to equalize the circulation, and allay morbid irritability.

1. *To weaken the general force of the circulation.*—In no inflammation is immediate and free venesection of more importance than in sero-hepatitis. Indeed a well-timed bleeding may, in many cases, render farther treatment almost unnecessary. The object here, as in all serious inflammations, is to lower the action of the heart; and this can be effectually accomplished only by suddenly reducing the volume of circulating blood. If the patient's veins be large, and the orifice admit of the passage of a full stream of blood, the opening of one vein may be sufficient; but if, on the other hand, a full stream should not be procured, two or more veins ought to be simultaneously opened. It is of the utmost importance that the first bleeding should be effectual; and it is well known to be an advantage to produce syncope, in bleeding in all cases of high inflammation.

It would be worse than useless to lay down any rule as to the quantity of blood to be withdrawn. The extent to which depletion is to be carried must be regulated by two circumstances, viz. the strength of the patient's constitution, and the urgency of the symptoms. Those attacked with sero-hepatitis are generally of a robust habit of body and sanguineous temperament, and consequently there are few cases which do not require the removal of twenty or thirty ounces of blood at the first general bleeding. In many cases a greater quantity must be removed before syncope ensues, or the urgent symptoms are relieved.

And, as I have said, the more rapidly the blood is withdrawn, the more useful will this bleeding prove.

2. *To allay the irritability of the stomach.*—Severe retching is not only a source of injury to the inflamed membrane, but a serious interference with the exhibition of remedies. The above, therefore, is an object of primary importance. It will sometimes happen that a full bleeding quiets the stomach, and enables us at once to exhibit purgatives. Should this not be the case, a scruple of calomel, while it produces the most beneficial effects throughout the whole gastro-enteric mucous membrane, acts like a charm in allaying irritability of the stomach. A large dose of calomel, therefore, should be prescribed; and its effects may be forwarded by the application of a large sinapism over the stomach. And effervescing saline draughts, while they are agreeable to the patient, are soothing to the stomach. Should these means be ineffectual in putting an end to the retching, leeches, and a blister to the scrobiculus cordis, must be resorted to.

3. *To overcome the morbid condition of the capillary vessels.*—This may be considered as a portion of the first indication, or perhaps I should rather say, that the most effectual means of answering this last indication is, by diminishing the *vis a tergo* of the blood. But experience has taught us that the application of leeches, fomentations, and blisters to the surface, over a deep-seated inflammation, are the most effectual means of restoring the tone of the diseased vessels. And although we may be unable to explain how this happens, it is sufficient for the practitioner

to know that such is the fact. In India, leeches are a most efficacious means of accomplishing depletion; for the tropical leech is not only so large as to be capable of containing from one to two ounces of blood, but it leaves a wound more like that of a bayonet than a leech-bite; so that a dozen or twenty leeches will not only draw a great quantity of blood, but will do so with wonderful rapidity.* Having therefore bled freely with the lancet, exhibited a large dose of calomel, &c., a dozen or twenty leeches ought to be applied over the region of the liver, and their removal followed by a lengthened fomentation.

4. *To act on the bowels.*—Attention to the bowels is the next point of importance. It is unnecessary to say, that twenty grains of calomel alone, do not act as a purge; two or three hours therefore after the calomel has been administered, purgatives must be exhibited. Of cathartics, the best, in the outset of the treatment of inflammation, are salts, to which tartrate of antimony should be added.† Having fully acted

* A very dangerous case of exsanguination occurred in the Indian practice of a young friend of mine. Accustomed to the leeches of a London hospital, he had ordered the application, to the knee of a robust man who had suffered a fall from his horse, of as many leeches as would adhere. Upwards of forty of the large Indian leeches were applied, and before one had dropt off, the man fainted, and could scarcely be re-animated.

† ℞ Magnes. Sulph.....℥iss.
Tart. Antimon.....gr. iss.
Aquæ.....lb. ij. Misce.

Fiat solutio cujus sumatur cyathus quaque hora donec alvus commode purgetur.

on the bowels, tartrate of antimony in solution should be persevered in;* and, as additional means of lowering the heart's action, from three to five drops of the tincture of digitalis may be from time to time added to the tartar-emetic solution.

This may be viewed as the most critical stage in the treatment; for it is now that the propriety of a second general bleeding must be considered. The leech-bites have ceased to bleed, and a large blister is ready for application. There is therefore as yet nothing to interfere with an examination into the state of the liver by pressure. The risk I think is, that venesection may be repeated on insufficient grounds. There is still much soreness of the side, and the blood already drawn is cupped and buffy; and, although the pulse is softer, and the breathing more easy, still there is no well-marked proof that the inflammation has been mastered; and a repetition of the general bleeding is determined on. Now it is very possible that this very important step may be wholly uncalled for: And although a robust young man may without injury, and in the course of a few hours, sustain the loss of seventy or eighty ounces of blood, yet to a man beyond the prime of life, or who, though apparently robust, has been for some years exposed to an injurious climate, the effect of such "decided practice," as it is called, may be very serious. As in the case cited above (*vide* page 18), the

* ℞ Antimon. Tartar.....gr. i.
Aquæ Fontanæ.....lb. ij.
Misce cochlearea duo omni semihora sum.

patient may at once sink; or, as is more common, he may partially recover, but his constitution never rallies, and he becomes a confirmed invalid, breaking down at last under repeated attacks of liver, or of dysentery.

It is at this stage of the treatment, then, that the skill of a good practitioner is best shown. It is now that the advantages of watching symptoms, instead of practising by rule, most manifestly appear. Very few hours have elapsed since the case came under treatment; the febrile symptoms are lowered; the pulse is softer and more moderate; the bowels are acting freely; and the pain, though still present, is more endurable. In such circumstances much is to be hoped for from the application of a large blister, with which the whole of the right hypochondriac region ought to be covered. The antimonials, digitalis, and saline draughts being persevered in, it will be found in a great proportion of cases that, as visication proceeds, the inflammatory symptoms rapidly disappear. Nor must it be forgotten, that cases may occur in which it is not advisable to bleed generally even once, but in which, from the habits or constitution of the patient, the practitioner is forced to depend entirely on local depletion. And in India, where each leech enables a surgeon, with little loss of time, to withdraw upwards of two ounces of blood, topical bleeding is on many occasions no less effectual than safe.

It is extremely difficult to lay down a general rule for the guidance of practitioners on the question of repeating venesection in a case of acute hepatitis. I

have even found some difficulty in making manifest to myself the reasons which have induced me to decide on this step, or why, in particular cases, I had delayed resorting again to the lancet, in the persuasion that a favourable change in the character of the symptoms was in progress. Experience, in truth, begets a species of tact, which enables the practitioner, by combining the state of the pulse and skin with the character of the countenance and the breathing of the patient, to come to a decision, the grounds of which, though perfectly satisfactory to himself, it is not easy to communicate to others.

If, after the blister have risen, the febrile symptoms should be relieved, but there should still be some pain in the region of the liver, with a full pulse, the patient must be carefully watched. Leeches may soon again become necessary; or a return of urgent symptoms may call for more decided measures. If again, notwithstanding such a course of treatment as that which I have laid down, the pulse should continue hard, attended with heat of skin and oppression of the chest, pain being still urgent, further venesection must not be delayed; and the rule should still be to bleed quickly, and until syncope ensues.

5. *To equalize the circulation, and allay morbid irritability.*—Until the pain and febrile symptoms disappear, antimonials and purgatives must be persevered in,—an antiphlogistic regimen, or rather total abstinence from food, being strictly enforced. It must now be the practitioner's object to satisfy himself that the functions of the liver are restored, which will, in all probability, be most easily effected by

mercurial purgatives, such as from five to ten grains of calomel, and five grains of James' powder, followed up by castor oil, or the black draught, in a few hours; or ten grains of blue pill, with five of the extract of hyoscyamus, with some of James' powder, may be given every night at bed-time; the mixture of sulphate of magnesia and tartrate of antimony being freely exhibited in the morning. And this, or similar practice, must be pursued until the alvine discharges are brought into a healthy state, and until all tenderness of the liver has disappeared,—to effect which object it may also be necessary to apply repeated blisters.

Such is the treatment from which there is every reason to hope a favourable result, if not a radical cure, in a case of pure sero-hepatitis. And in temperate climates, unless the affection be combined with organic disease in the substance of the liver, the practitioner will seldom be disappointed. But within the tropics there is very great risk that an hepatic affection of any kind will leave a dangerous tendency to disease in the organ. It is therefore advisable to follow up the treatment of a case of acute sero-hepatitis by the most anxious attention to the condition of the circulation and function of the liver. In truth, I think there is reason to believe, that greater loss of health has resulted from neglect of this important point, than from the mismanagement of the patient in the acute stage of the disease. The risk seems to be, that the inflammatory affection of the covering membrane of the liver is communicated to the substance of the organ; and, as will presently be shown,

inflammation of the substance of the liver is so insidious, that the first intimation of the destruction which has ensued, may be the proof that an abscess has already formed. It may therefore be laid down as a rule, that within the tropics the treatment of sero-hepatitis is to be wound up with a short course of mercury, which, whatever may be its *modus operandi*, is certainly the most effectual method of equalizing the circulation, and of re-establishing a healthy condition of the chylopoetic viscera, and particularly of the liver. But in the course of mercury which I conceive to be necessary to the complete restoration of the liver to a healthy state, after acute hepatitis, it is sufficient to be satisfied that the system is under the influence of the medicine: complete salivation is not necessary. The best way of exhibiting mercury in these cases, is by a combination of blue pill and hyoscyamus.*

I shall have occasion in the sequel to refer to a case, the treatment of which, as is not uncommon, was rendered difficult, by the co-existence of an inflammatory condition of the peritoneal coat, and of the substance of the liver.

For the restoration of the general health of the patient, change of air and a cousre of chalybeate and aperient medicine should be prescribed; while temperate habits, regular exercise, and avoiding exposure

* ℞ Pil. Hydrarg..... gr. viii. vel gr. x.
Extract. Hyoscyam..... gr. iii. vel gr. v.
Misce ft. Pil. ij. omne nocte vel bis in die sumendæ.

to the sun, and over-fatigue, are the most likely means of escaping a relapse.

The terminations of sero-hepatitis are, resolution, adhesion, effusion, chronic inflammation, and change of structure.

Resolution, of course, is the most satisfactory result, and in most cases rewards a well-managed course of treatment. We may conclude that it has taken place when, with the disappearance of feverish symptoms, the pain is completely relieved, and there remains neither weight nor uneasiness in the region of the liver; the patient being able to lie in bed on either side, his bowels being in order, and his nights refreshing.

Adhesion is most likely to take place when the inflammation of the peritoneal covering of the liver is seated on the convex surface of the great lobe. We shall have reason to fear that this has happened when the acute disease is followed by a dragging uneasiness in the right side, a difficulty of lying in bed on the left side, and a liability to biliary affections and other hepatic derangements. In such circumstances the patient will escape a recurrence of inflammatory attacks only by the strictest attention to his health; the more complete establishment of which should be, for some time at least, his principal object.

When acute sero-hepatitis ends in effusion, it does not appear to go to any extent, unless, indeed, the case have been neglected, or, from other causes, the whole coat of the liver has fallen into a state of chronic inflammation, in which event ascites may ensue.

When dropsy thus follows hepatitis, there will be every reason to believe that change of structure has taken place in the peritoneal covering of the liver, and that the whole gland is involved in the disease. Such terminations are rather to be regarded as the result of repeated attacks of inflammation, and the consequence of dram-drinking or other injurious habits, than of a single attack of sero-hepatitis.

Chronic sero-hepatitis, which, as one of the terminations of the acute disease, might be here treated of, will be more appropriately considered in the sequel.

II.—PURO-HEPATITIS,

OR INFLAMMATION OF THE LIVER HAVING A TENDENCY TO END IN ABSCESS.

THIS is a disease so insidious that most practitioners, at least within the tropics, must have met with cases in which they became aware that abscess in the liver had formed, only in the course of their post mortem examinations. And it cannot be sufficiently lamented that a lesion in this most important gland, so mortal as abscess of the liver generally proves, should be one of the most difficult of diagnosis in the whole catalogue of diseases.

SYMPTOMS.—The condition of the hepatic vessels which leads to suppuration in the substance of the liver, seems to be so little different from their usual state (at least so far as is indicated by symptoms), that very frequently the first intimation which a patient has of serious disorder of the system, is what is too often to be reckoned proof of the formation of an abscess. He is attacked with a shivering fit, which is followed by an irregular hot stage, ending in profuse clammy perspiration. Even after this there may be no symptom pointing out the destruction which is going on in his liver. The patient suffers from irregu-

lar feverish symptoms, and has the impression that something very wrong is taking place; but neither he, nor probably his medical attendant, is aware that he is stricken with a mortal malady. As the case advances there are occasional severe shivering fits, and distressing night sweats—the pulse rises—the tongue is furred—and from the appearance of the patient's countenance, it is evident that he is labouring under some great internal disease. Still there may be no symptom referable to the liver; great derangement of the bowels ensues, and there is much suffering from dyspeptic symptoms. In some instances there are severe spasms in the diaphragm, and violent tenesmus. After some days (or it may be even weeks) the patient is attacked with low delirium, and dies as if from effusion in the brain. This is an extreme case.

In the less obscure cases there are fulness, weight, and uneasiness in the right side, increased on pressure. There is pain in the right shoulder, or in the back; there is a dry cough, the stomach is disordered, and the bowels much deranged; and though the pulse may not be materially affected, there are alternate aguish and feverish symptoms. There is urgent thirst, the tongue is furred, and the urine high coloured, depositing a lateritious or pinky sediment. There is great risk that these symptoms will soon be followed by decided indications of the formation of an hepatic abscess.

Cases occur in which very extensive abscesses have appeared to form very rapidly, death ensuing within eight or ten days after the accession of symptoms of acute sero-hepatitis, and in which it has been found,

in the post mortem examination, that one or more extensive abscesses had formed in the substance of the liver. I am persuaded that in all such instances the abscesses had formed insidiously and unnoted; and that the symptoms which had forced themselves into notice were those produced by the inflammatory action having extended itself to the peritoneal covering of the liver.

In other instances the hepatic affection has been first detected by the patient finding that he could not endure the weight of his watch in his waistcoat pocket, or that the pressure of a friend's hand while leaning on his arm has produced a sickening uneasiness. Such slight symptoms of morbid sensibility in the region of the liver have been soon followed by melancholy evidence that suppuration had taken place in that organ.

The following case, which is that of one of the most able medical men who ever reached India, will illustrate the insidious nature of puro-hepatitis. Mr Assistant-Surgeon H——, a stout man, about thirty-five years of age, arrived at Tanjore on the 25th of March 1826, in attendance on the late Bishop Heber. He went to church on the following day, Good Friday, made a round of calls, and dined at the Residency. On calling for him on the forenoon of the 27th, I found him confined to his sofa. He told me he had a slight feverish attack, but that he expected his usual dose of oil, which he had taken, would put him to rights again. As his hand was hot and dry, and his pulse quick, I advised him to take some tar-

tar-emetic solution. He objected to this, but agreed to take a dose of compound powder of jalap. When I saw him in the evening, I found him still feverish; his bowels had been opened, but the evacuations, though apparently bilious, were fetid and unwholesome. I prescribed effervescing draughts, and gave him at bed-time six grains of calomel with some James' powder, prescribing the black draught in the morning.

28th March.—Mr H. appeared better; his medicine had operated; but I found his pulse high and his skin dry. He told me that his pulse was naturally a very quick one; and he expected, he said, that as soon as his medicine had freely operated he should feel well.

℞ Tart. antimon. . . . . gr. i. ss.
Aq. font. . . . . lb. ij.
Misce ft. solut.
Cochlearia duo quaque hora sumenda.

Pomeridianum.—As he had again become feverish, and as his bowels were still in a very unwholesome condition, I repeated the black draught, and prescribed pills, containing a grain and a half of calomel, every two hours.

Cont. solut. diaphoret. u. a.

7 P. M.—Stomach extremely irritable, pulse full and hard, much uneasiness in the head. A dozen of leeches were applied to each temple.

9 P. M.—The above symptoms being much aggravated, I withdrew by venesection twenty ounces of blood, which removed all the uncomfortable sensations in the head, rendered the pulse soft, and was followed by perspiration.

29th March, 2 o'clock A. M.—I was called up to

see Mr H. who had been suffering severely from griping pains in the abdomen, particularly in the situation of the left extremity of the arch of the colon. There was no pain, on pressure, in any part of the belly. The nurse, by Mr H.'s order, had administered a glyster containing a tea-spoonful of laudanum. Though this had produced some relief, still, as the pain continued urgent, a large blister was applied over the part complained of.

6 A. M.—Mr H. ascribes the tenesmus which disturbed him during the night to the mercury, having suffered, he said, in the same way before from a similar cause; and he thinks that now all that is necessary to his recovery is bland food. As his tongue however was foul, and his pulse, though soft, was 108, while his bowels had not yet been opened by the medicines administered last night, I persuaded him to take the following medicines:

℞ Ext. colocynth.....gr. ij.
Hydrarg. submur.....gr. i.
M. ft. pil. in hor. sumend.

10 A. M.—Complains of acidity of the stomach, for which he has taken a dose of magnesia, and one or two doses of the subcarbonate of potash.

1 P. M.—Has had several stools; pulse still high, and tongue foul; skin natural heat, no thirst, no uneasiness in the bowels; the blister has risen well.

Arrow root and bland diet.

Evening.—Pulse still very high; tongue foul; perspires profusely.

℞ Pilul. hydrarg.....gr. vi.
Pulv. Jacob.....gr. ss.
M. ft. pil. tertia quaque hora sumenda.

30th, 2 A. M.—Called up in consequence of Mr H. having been attacked with severe vomiting. I found he had taken some laudanum, which had quieted the stomach. Has not any fixed pain; is sure, he says, his liver is sound; pressure on the region of the liver produces no uneasiness. I resolved, however, to continue the mercury, though Mr H. objects, and says his mouth is already touched.

6 A. M.—Gave a black dose with salts; pulse still very high, from 106 to 110; tongue foul, skin *wet*.

10 A. M.—No stool.

Rept. haust. purgan.

2 P. M.—Has much griping; no stool.

Habeat ext. colocynth.....gr. ii.
Hydrarg. submur.....gr. i.
In pil. quaque hora.

The belly was fomented, and an anodyne glyster administered.

Vespere.—Has had three stools; feels easy, but is very weak; pulse 116, and weak; constant perspiration. I ordered a tea-spoonful of port wine every hour.

31st, 2 A. M.—Again called up to Mr H. He has had no sleep, and feels irritable and restless; no local pain, but there is much depression. He had vomited some sago soon after taking it. Pulse and skin continue as above.

Habeat hydrarg. submur. gr. v.
In pilul. bihor. sumend.
Cont. vin.

6. A. M.—Feels less irritable.

Cont. ut supra.

Noon.—To have chicken broth or arrow root.

Cont. med. et vin.

Vespere.—Cont. ut supra.

1*st April*, 6 A. M.—Continues weak; pulse 110; tongue foul; perspires profusely; no stool.

Rept. haust. purgan. ℥ ii. Statim sumend.

10 A. M.—Rept. haust.

Noon.—Has severe griping; no pain on pressure; the bowels have not yet been acted upon.

Habt. tinct. opii gtt. xl. Statim.

Rept. pil. colocynth. et calomel. ut supra prescrip.

Vespere.—Bowels open; griping gone.

Cont. vin. u. a.

2*d April*.—Has had five stools during the night; they appeared bilious, but were fetid. Had a return of severe griping, attended by retching. I administered during the night, in different doses, fifty-five drops of laudanum, and applied hot salt to the abdomen; pulse 120, and weak; sweats profusely.

℞ Hydrarg. submur.....gr. ij.

Opii.....gr. ¼. M. ft.

Pil. bihora sumenda.

Continue wine and nourishment.

Vespere.—Has had three stools since morning.

Cont. ut supra.

11 P. M.—Symptoms of internal derangement continue; mouth not at all affected; no fixed pain anywhere.

℞ Hydrarg. submur. gr. xx.

Fiat bolus tertia quaque hora sumendus.

3*d*, 6 A. M.—Has not slept during the night; pulse

120. Complained much in the course of the night of what he called spasm of the diaphragm, from which he says he has suffered in former illnesses. Blisters were applied along the margin of the ribs, which, with an anodyne draught, containing thirty drops of laudanum, and the application of bags of hot sand, relieved him.

Cont. med. ut supra.

10 A. M.—Pulse 126, and weak; skin and tongue as above.

Hab. tinct. digitalis gt. x. statim.

Noon.—Pulse 118; other symptoms as above.

Rept. tinct. digital. u. a. cont. calomel. ut supra. Continue nourishing diet and wine.

1 o'clock P. M.—Has had a return of spasms in the abdomen. Habt. tinct. opii gt. xx. quam primum.

2 P. M.—Still complains of spasmodic pains.

Rept. haust. e tinct. opii gtt. xxv. statim.

Evening.—Feels easy; pulse 124; tongue furred; profuse sweating. Cont. calomel. &c. ut supra.

4th April.—I sat up with Mr H. the greater part of the night. I continued to administer calomel combined with opium, of the latter of which, in the course of the night, he had four grains; and I also gave him, in hopes of keeping down the pulse, thirty drops of the tincture of digitalis in different doses.

Mr H., though prepared for death, thought that he had been reduced in former illness to a state of more imminent danger, and was persuaded that he owed his life to the perseverance of his then medical attendant, in giving him wine and nourishment; and he requested me to act in a similar manner. I there-

fore continued, until he could no longer swallow, to administer wine, &c. Mr H. retained his consciousness until two o'clock in the afternoon, and died a little after four.

SECTIO CADAVERIS.—An abscess containing upwards of a pint of matter was found in the great lobe of the liver, on the point of bursting into the abdomen. It was seated nearly in the centre of the lower surface of the lobe. On the upper surface of the great lobe there was an old adhesion of considerable extent between the diaphragm and the liver. The gall-bladder was full of green-coloured bile. The bowels throughout showed that there had been much irregular spasmodic action in them. The cardiac end of the stomach was full; the pyloric end was contracted. The duodenum was also contracted. These parts may have been affected by the pressure of the abscess on them.

In this case it is remarkable, that the patient, a man of great judgment and perfect coolness, who was thoroughly persuaded that he understood the nature of his illness, never suspected disease in his liver. He said that in a former illness an adhesion had taken place between the diaphragm and lungs, and to this he ascribed the spasms in the diaphragm. I examined the chest, and found that the pleura were attached almost throughout their surfaces. The adhesion of the liver to the diaphragm will, however, better account for the symptom in question.

Although throughout my attendance on Mr H. I feared that some great internal organic lesion existed, I could not decidedly say what it was. The absence

of pain in the right side or shoulder, the patient's being able to lie on either side, and his not confessing to his ever having had any rigors, appeared to me almost like proof that there was no abscess in the liver; and I confess that I went on very much in the dark; administering to symptoms as they occurred, and most anxious to credit Mr H.'s assurances that he had suffered in the same way in former illnesses.

I have since ascertained, that, three weeks before my attendance on this gentleman commenced, and previously to his having marched upwards of 200 miles down the Coromandel coast of India for ten days, during the hottest season of the year, he had suffered at Madras from repeated attacks of shivering. There can be little doubt that these symptoms marked the formation of matter. And it adds considerably to the interest of this fact, that so little were those shivering fits connected, in Mr H.'s mind, with his fatal illness, that, in our many conversations on his case, he never once alluded to them. I may mention, however, that an intelligent officer who commanded the bishop's escort, observed to me, before the disease assumed a serious character, that, from the appearance of Mr H.'s countenance on the march, he felt convinced that he (Mr H.) had some mortal malady hanging about him.

It happens very fortunately for my present object, that I have lately had an opportunity of watching (in the case also of a medical man) the progress of puro-hepatitis to its fatal termination in this country.

Mr Surgeon B., after having served eleven years in India, was compelled by the state of his health to re-

turn to England. His mode of life, during the latter years of his service in that country, had been exceedingly intemperate, and latterly he had lived almost entirely on ardent spirits. The consequence had been alarming disorder of the stomach, which, before he left India, had assumed the character of organic disease. His health improved on board ship, where he had been enabled to wean himself from the brandy-bottle. In August 1830, while in the west of England, he was attacked with what was considered by his medical attendant as irregular ague, for which he was treated in the usual way. But, although the aguish symptoms were relieved, he was not restored to the health he had enjoyed on his landing in England. His stomach again became irritable, and he rapidly lost flesh. He came to Edinburgh in the beginning of December 1830, and when he placed himself under my care, the following was his condition:—He appeared to be in the last stage of general atrophy, and his countenance bore the indescribable marks of a man sinking under organic disease. His principal suffering was in his right leg, which was bent up upon his body, this being the only position which gave him any thing like relief. His skin was cool, his pulse 120, his tongue, though not loaded, had the fleecy-grey moist look which betokens organic disease; and he had great irritability of the stomach, with difficulty of swallowing, and occasionally severe pain, referable to the cardiac orifice of the stomach. He had frequent attacks of hiccup, which sometimes lasted for hours; and there were occasionally acrid sour eructation. His bowels were open, but the alvine dis-

charges were unnatural in appearance. He told me, that although there was no symptom referable to the liver in the intermittent feverish attack with which his present illness commenced, yet so impressed was he with the belief that there was something wrong in that organ, that latterly he had persuaded his medical attendant (although he thought it unnecessary) to apply leeches, and to blister him on the right side. He had since then resorted almost constantly to blisters over the stomach, and the only quiet sleep he had enjoyed for months had been during their vesication.

I told Mr B. that there was every reason to fear that an abscess had formed in the liver; that there was disease at the cardiac orifice of the stomach; and that I could account for the peculiar suffering in his leg only by supposing that there must be a tumour within the pelvis pressing on the nerves of the leg.

He lingered on for seven weeks with little change of symptoms; his pulse varying from 120 to 140: his stools, although unwholesome in smell, were latterly excrementitious, and not ill coloured: urine in very small quantity, and thick: occasional troublesome cough, with much expectoration. There was almost constantly severe suffering in the right leg and hip. Sleepless nights, and colliquative sweats.

My treatment consisted of aperients and anodynes, a succession of blisters over the stomach, and anodyne liniments to the spine. Mr B. would have nothing to do with mercury in any shape.

Sectio Cadaveris.—Extraordinary emaciation. There was much flatus in the alimentary canal; the omentum adhered to the peritoneum lining the ab-

domen and the floating viscera at several points. The liver adhered to the peritoneal lining of the diaphragm and abdominal walls throughout its whole convex surface, apparently the consequence of some former attack of hepatitis. The whole of the viscera on the right side formed a general mass of disease. The posterior portion of the great lobe of the liver was gangrenous. On attempting to raise the liver the fingers broke into a large abscess, which seemed to occupy the whole of the lower part of the great lobe, and was filled with matured pus. The ascending colon, the duodenum, and liver, were formed into one mass of disease; and on opening the stomach the whole of its inner coat was found to be thickened and ulcerated in various parts. The pylorus was hard and almost impervious. The mucous coat of the cardiac orifice of the stomach, and of a portion of the œsophagus, was thickened, ulcerated, and black. The coats of the duodenum were thickened and black, as were those of the ascending arch of the colon. The right kidney was involved in the disease, and the most extraordinary point of the dissection was, that the right ureter had been cut off from its connection with the bladder; and there had been formed an immense sac of urine behind the peritoneum, and running down among the muscles like a psoas abscess. The psoas and iliacus internus muscles of the right side were black, and apparently mortified.

This gentleman must have carried a great portion of this extensive disease along with him from India, and the abscess of the liver must have existed for six months.

These cases are, I think, sufficient to illustrate the obscure nature of the symptoms of puro-hepatitis; and I regard them as the more valuable, because the sufferers were both of them intelligent medical men, who had the natural bias of Indian practitioners to direct their attention to every feeling referable to the liver.

It is thus, I think, evident that the condition of the internal vessels of the liver, which tends to the formation of abscess in the parenchymatous substance of the gland, may be marked by no prominent local symptoms; and it is therefore of the utmost consequence that every indication, general or local, of an affection so insidious and so fatal, should be well understood and kept anxiously in mind by the practitioner. This observation is not only applicable to puro-hepatitis, but to every case in which, from circumstances, there is reason to dread the formation of deep-seated abscess.

When an individual has been exposed to the exciting causes of liver complaints, an attack of shivering, if unconnected with intermittent fever, even although there should be no symptoms referable to the liver, ought to lead to the most anxious inquiry into the condition of that organ. And if rigors be followed by irregular feverish symptoms, a clammy skin, and disorder in the primæ viæ, there will be reason to suspect the existence of puro-hepatitis. If, in addition to these symptoms, there be morbid sensibility in the region of the liver, pain on the top of the right shoulder, a dry cough, uneasiness while lying on the left side, a foul tongue, thirst, and unwholesome alvine de-

jections, the urine depositing a lateritious or pinky sediment, there can be little doubt in the diagnosis.

CAUSES.—A residence within the tropics, intemperate habits, whether of eating or drinking, constitutional predisposition to liver complaint, and local injuries.

TREATMENT.—It seems now to be generally admitted, that, even after the formation of matter in the substance of the liver, the case is not beyond the reach of the physician's art; in other words, re-absorption of the matter of an abscess may be hoped for. Therefore, without reference to the chance of an hepatic abscess bursting externally, or being discharged by the bowels, so as to save the patient's life, it is our duty, unless the case be very far advanced, to use every exertion to produce re-absorption of the pus.

It is unnecessary to say, however, that our great object must be to arrest the disease before suppuration has commenced. The means to be resorted to are, 1, vascular depletion; 2, the constitutional influence of mercury; and, 3, counter-irritation.

1. *Blood-letting.*—Except in cases in which there is a full, hard pulse, oppression at the chest, or much headach or confusion of head, the lancet is seldom necessary, venesection being only resorted to when the condition of the general circulation, or when some prominent determination of blood to other organs, indicates it. With a view to the hepatic affection, an extensive topical application of leeches, or the free use of the cupping-glass, is the best means of answering this first indication. I prefer leeches; their applica-

tion is less exciting to the patient, and their bites often act usefully as a counter-irritant.

From twenty to thirty ounces of blood should be removed as soon as possible, by leeches or cupping-glasses applied along the margin of the ribs, and to the whole of the right hypochondrium; the part being afterwards freely fomented: and the operation should be again resorted to within a few hours. Should the topical depletion fail to relieve the fulness in the liver, or, as is not uncommon, should this measure be followed by an accession of pain and uneasiness in the organ, blood should be removed freely by the lancet. But general rules would only do harm; the practitioner must be guided as to the extent to which depletion is to be carried, and the best mode of accomplishing it, by the state of the pulse, skin, and respiration, and the sensations of the patient referable to the liver. Topical bleeding may be repeatedly called for in the course of the treatment.

2. *Mercury.*—I shall make no attempt to explain the rationale of the effects of mercury in morbid affections of the liver. I may observe, however, that it is not in the deep-seated affections of this gland only that mercury possesses remedial powers. It may be resorted to with almost equally beneficial effects in every puro-phlegmonous disease; and it is for this reason that it is one of the most valuable remedies in puro-inflammatory affections of the lungs.

In puro-hepatitis, no time is to be lost in endeavouring to produce salivation; an effect of mercury which is the more satisfactory, as proving that the cure

is within our reach. For in cases in which abscess exists, although the mouth sometimes becomes ulcerated, under the use of mercury, true ptyalism does not take place.

Calomel is the usual form in which mercury is prescribed in this disease in India; this preparation in large doses being generally considered the most rapid in producing the constitutional effects of the medicine, and it has the advantage of not acting as a purgative when taken in large quantities. The ordinary method in puro-hepatitis is to administer calomel in scruple doses alone, or in combination with opium or hyoscyamus, every six or eight hours; mercurial ointment being, at the same time, rubbed in on the thighs or abdomen. I am very partial to the blue pill, with which in some instances I have succeeded in producing salivation, after calomel had been used in vain.*

But it is not necessary to introduce here a variety of prescriptions; it is sufficient that it should be borne in mind, that in cases in which we have reason to believe that there is inflammation in the parenchymatous substance of the liver, it is of vital importance to produce salivation; and, in our endeavours to attain this important object, we need not restrict ourselves to any one formula, or preparation of mercury, but resort to calomel, blue pill, inunction, or inhalation, as may seem most advisable, using one or more of these

* ℞ Mass. pil. hydrarg. gr. x.
Extract. hyoscyam. gr. ij.
M. ft. pil. tert. quaq. hor. sumenda.

at once, or on the failure of one preparation resorting to another.

While thus endeavouring to bring the system fairly under the influence of mercury, the case must be carefully watched; for if the disease be overcome, the patient may be suddenly brought into a state of danger from the extent to which the medicine may affect him. When the breath is evidently tainted with mercury, and after there has been a large quantity of it administered, there ought to be a remission in the activity of the treatment; and when the gums begin to swell, and the salivary secretion to increase, the mercury should be suspended. If a complete state of salivation should suddenly come on, purgatives must be administered, and the patient's head and face kept as cool as possible.

3. *Counter-irritation.*—It is unnecessary, at the present day, to enlarge on the importance of this remedy in all cases of deep-seated inflammation. In puro-inflammatory affections, epispastics are by far the most valuable means of cure within our reach. My attention was early called to their importance in such affections, by the following case mentioned by Sir Charles Bell, in his Surgical Lectures: In treating of chronic abscess, he observed, "One of the most illustrative cases which I have seen of the decided advantage of caustics, was in a case of lumbar abscess, in which I met Dr Dick and Mr Abernethy in consultation. Mr A. proposed that the case should be treated according to his method. Dr D. told us, that in his practice in India, having under his care a case of abscess of the liver, pointing outwards, he wished to

open it gradually, and, for this purpose, had applied caustic; but instead of finding that he attained, in any degree, his object of opening the abscess, he soon discovered that it was lessening, and that its walls had become much thickened. In short, the matter was absorbed, and the patient restored to health. Other cases of similar success followed, and he was thus led to consider severe counter-irritation as a most important means of producing the re-absorption of matter. He therefore proposed that, in the case under consideration, we should resort to the free application of caustics. Dr Dick's opinion was yielded to: a succession of caustics were applied; and, to the delight of the friends of the patient (an only child, and heir to an estate), he perfectly recovered." (*Notes of Lectures.*)

The natives of India are well acquainted with the importance of counter-irritation in the treatment of internal diseases. Actual cautery is the remedy resorted to by the native doctors, not only in the treatment of the diseases of cattle, but in those of their human patients; and the number of Hindoos whom we find scored on the right or left side with the searing iron, is at least a proof that this remedy is a very general one in the treatment of disease of the liver and spleen: I believe it to be wonderfully effectual. That actual cautery is also calculated for the treatment of disease in this country, has been satisfactorily proved by that excellent surgeon, Mr Syme of Edinburgh, who deserves great credit for his successful application of it in the treatment of diseased joints.

Actual cautery, however, is not a remedy which is ever likely to become popular; but in cases in which abscess has undoubtedly formed in the liver, the sur-

geon ought to endeavour to obtain permission to resort to its use, applying the searing iron freely over the whole of the region of the liver.

When the objection to actual cautery cannot be overcome, the more usual counter-irritants must be resorted to: cantharides, tartar-emetic, the moxa, or causties. Tartar-emetic is a most valuable epispastic, and when mixed with the mercurial plaster, in the quantity of a scruple to the drachm, I have found it very useful in the treatment of deep-seated abdominal affections. It soon produces an irritable and painful sore, which may be kept open by re-applying the same plaster from time to time. A succession of blisters may be used; or, what is nearly as good as actual cautery, lunar caustic paste, as if for the purpose of forming an issue, may be applied at different points along the margin of the ribs. But I may safely leave to the practitioner the choice of his counter-irritants; satisfying myself with stating the great importance of these as means of cure in puro-hepatitis, and the necessity of persevering in their use, until a cure is effected, or until the case becomes obviously hopeless.

Should there be reason to believe that absorption of the matter is taking place, the patient's system requires the greatest attention. His bowels, in particular, must be watched; the great object being to keep them free, and to procure feculent discharges.

Unfortunately it is too certain that, after pus is really formed, the life of the patient is in extreme hazard. It has been already observed, that when there is a puro-phlegmonous condition of the substance of the liver, the peritoneal coat over the seat of disease is liable

to become affected; the inflammatory action seems then to pass on to the neighbouring parts; adhesion ensues; and the whole being thus formed into one substance, when the abscess begins to advance towards the surface, parts originally unconnected are prepared to partake of the disease. If the constitutional strength of the patient support him through the process, the matter passes on, so that instead of the abscess bursting into the cavity of the abdomen, an event which is found to be very uncommon, it reaches a surface which has communication with the external air. The points at which this is likely to happen are the stomach, the duodenum, the colon, the air cells of the lungs, and the skin. Although, then, we may despair of effecting a cure by the re-absorption of the matter of an abscess, the case is not quite hopeless; the patient's life may be saved by the discharge of the matter. It is not unimportant at which point the abscess bursts. I am inclined to think, that in cases in which the matter is discharged into the colon, the patient has the best chance of escaping. When the discharge is into the stomach and duodenum, there can be little hope. When the abscess bursts into the lungs, if the patient escape suffocation, there is a great probability that these important organs will become involved in the disease, producing death even after the hepatic affection has been cured. In all these cases nature must be the principal physician. All that we dare to attempt is to assist the evacuation of the matter, without producing irritation, and to support the strength of the patient. Mercury should still be exhibited, but with great care.

When the abscess reaches the skin, there is more room for practice. After the usual obscure train of symptoms, a circumscribed swelling gradually forms under the margin of the ribs. This, after a time, is found to contain matter. In such circumstances it will be of the utmost consequence to reduce, if possible, the size of the abscess. So long as the patient's condition does not call for a change of measures, the endeavours to produce the re-absorption of matter should be persevered in; and, as in the practice of Dr Dick, powerful epispastics may still be of service. The natural tendency of matter towards the surface gradually brings the abscess nearer the skin, and, we may also hope, decreases its extent in the liver. Indeed, I think there is reason to believe that in some instances the abscess has travelled out of the liver before it has burst on the skin, having become, in fact, a collection of matter in the walls of the abdomen. In the case, therefore, of an hepatic abscess presenting on the surface of the abdomen, the exhibition of mercury should be persevered in, combined with quinine or bark, the mineral acids, and bitters; the bowels should be carefully regulated, and the patient's health supported by nourishing diet, and the cautious exhibition of wine. When there appears no hope of forcing back the abscess, or when the patient's strength is failing, the tumour should be freely opened, and as much of the matter removed as is possible. The parts should be afterwards poulticed, and every encouragement given to the discharge. The patient must be kept as quiet and comfortable as possible; quinine and wine being cautiously administered; and hyoscyamus

will be found a most valuable anodyne. Although it is the surgeon's duty to give this outlet to the contents of an abscess, whenever it is possible, I doubt very much whether it ever proves successful when there is a deep-seated and extensive abscess in the substance of the liver.

The terminations of puro-hepatitis, then, are Resolution and Abscess. The abscess may be re-absorbed, or discharged into the intestinal canal, into the air cells of the lungs, or on the skin, to the saving of the patient's life. In fatal cases death often ensues without the abscess having burst. This arises apparently from its effects on the circulation; and in those cases the patient is generally carried off by cerebral effusion. In some instances, but rarely, the abscess bursts into the cavity of the abdomen. When the stomach and duodenum are involved in the disease, the case is attended with great irritation and suffering, and soon terminates fatally. When the abscess bursts into the lungs, the case is full of danger, and death may immediately ensue from suffocation, or more slowly from pulmonary phthisis and hectic.

The after-treatment of a successfully treated case of puro-hepatitis is very important. The patient often remains a valetudinarian for life; but this may be prevented by a well-managed recovery. The first object must be to get the bowels into order. This will require carefully regulated courses of alteratives, aperients, and anodynes; the stomach and bowels must be strengthened by tonics and bitters, and the strength supported by nourishing diet of easy digestion, and wine, or malt liquor, which last will often be found a

good substitute for stronger drink. Repeated changes of air are necessary, and a sea-voyage will be found of great service; while the mind should be as much as possible amused. If the disease have originated in intemperate habits of living, these must be carefully changed; bearing in mind, however, that sudden changes, on inveterate habits of intemperance, are frequently not less injurious than perseverance in the pernicious habit. When the disease has been caused by exposure to a tropical climate, no time should be lost in proceeding to more temperate regions.

The following case, referred to above, is an example of the liability of an inflammatory affection in the substance of the liver, to involve the peritoneal covering of the gland in disease. It is also illustrative of the difficulties met with in the treatment of hepatitis within the tropics, and of the necessity of taking advantage of the first intermission, to give the patient the benefit of change of climate; many patients being sacrificed by a delay in this respect.

On the 20th June 1821, Lieut. R— was attacked with fever, which appearing to be an *ephemera biliosa*, he recovered in a few days under an antiphlogistic regimen. On the 29th June he was attacked with cold shivering, and it appeared as if the common occurrence of an intermittent following a bilious attack, were going to take place. In the part of India in which this case occurred (Dharwar, in the Southern Mahratta country) there was much intermittent fever, and few Europeans resided for any length of time at the station without being attacked with fever and

ague. The shivering, however, was not followed by regular fever, but went off and returned every two or three hours. I prescribed eight grains of calomel and three of James' powder, to be taken at bed-time, and a dose of salts in the morning.

Next day he complained of pain in the right shoulder, and in the region of the liver. He now mentioned, that during a late fatiguing journey, of 700 or 800 miles, from Tritchinopoly to Dharwar, he had suffered so much from pain in the right side and shoulder as to be incapable of riding, and that he had ever since felt a dull sensation and weight in the right side. The medicines administered had operated freely. I now prescribed a course of the blue pill, two at night and one in the morning.

1st July.—Weight and dull pain in the side continue; has had frequent rigors during the night; one natural stool this morning.

Cont. pil. hydrarg. u. a.

2d July.—Feels easier, slept better, has had two stools.

Cont. pil.

3d July.—Spirits depressed. The dull pain and weight in the right side continue; pain not increased on pressure; had some shivering during the night.

Cont. pil.

4th July.—Complains of having severe shooting pains in the right side, and says he has been unable to lie comfortably in any position during the night. Pulse ninety, and sharp; some heat of skin, and thirst. There is now much pain produced by pressure over the region of the liver; bowels irregular.

Emitt. sanguin. e brach. p. r. ad. ℥ xx. statim.

℞ Pulv. jalap.....gr. xxx.

Calomel.....gr. vj.

M. ft. pulv. statim sumend.

5th July.—Much relieved by the bleeding; has had several bilious evacuations.

6 P. M.—Has been very comfortable all day; is in good spirits, and has some appetite; pulse 80; skin natural; has had three stools, loose and feculent.

Cont. pil. u. a.

6th July.—Has passed a restless night, and does not feel by any means so well.

Cont. pil. u. a.

Vespere.—Has had, during the day, a good deal of shooting pain in the side, and much weary pain in the shoulder; pulse 86; skin natural.

Cucurbit. admov. ad reg. hepat. et emitt. sanguin. ad ℥ x. Cont. pil. u. a.

7th July.—Feels easier, having had none of the shooting pains since he was cupped. Did not sleep well; mouth slightly affected.

Cont. pil. u. a. et infric. unguent. hydrarg. ʒ ss. ad hypocond. dext. omni nocte.

8th July.—Slept well, and feels better in every respect.

Vespere.—Has had no stool.

℞ Magnesiæ sulphatis.....ʒ vj.

Cras mane sumend.

Cont. pil. et ung.

9th.—Has passed an uneasy night. The salts have operated three or four times; stools black, green, and

yellow. Pulse 72; skin natural. Has still some weight and dull sensation in the side.

Cont. pil. et ung.

Rept. pulv. jalap. cum hydr. submur. u. a. cras mane sumend.

10*th*.—Feels very much better. Has been freely purged by the medicine; stools bilious.

Cont. pil. et ung.

11*th*.—Mouth sore; slept better; the pain in the side gone, but there is still a feeling of weight in the region of the liver; bowels open.

Omit. pil. Cont. ung.

On the 12th July, Mr R.'s mouth being as sore as I wished it to be, and all the symptoms having been relieved, I thought it advisable to leave off the mercury. He continued to improve, and by the 15th of the month was so well as to be able to attend the mess. Still, however, he had a numb feeling in the side, and his bowels required much attention. The monsoon (rains) prevented my sending him to the coast.

On the 20th July Mr R. began again to complain of restless nights, and of difficulty of lying on the left side. I resorted once more to the blue pill. On the 21st he was much worse, with a return of pain in the shoulder and uneasiness in the right side; and as in the evening these symptoms were very much aggravated, I applied a large blister to the side.

22d July.—Pain very severe, affecting his breathing; pulse 92; skin hot; thirst; has passed a very wretched night; the blister has risen well.

Emit. sang. e brach. ad ℥ xviij. p. r.

Vespere.—Has been much easier since he was bled; pulse 80; skin warm; thirst gone; has a troublesome short cough, which he says he forgot to mention before, having had it for three days. I suspended the use of mercury, and ordered Dr Scott's nitro-muriatic acid bath morning and evening, and directed him to take twenty-five drops morning and evening of the following prescription.

℞ Acid. muriat. Acid. nitric. aa.....ʒ i.
Aquæ fontanæ.....℥ ii. M.

23d July.—Continues to be much teased by the cough, which is short and dry. Pains in the side and shoulder continue; has frequent cold rigors; pulse and skin natural.

Cont. med.

Vesp.—Has had no stool.

℞ Pulv. jalap. comp.....ʒ iss.
Cras mane sumend.
Cont. baln. et acid. nitro-muriatic. dil. ut sup.

24th July.—Continues very low, with cough and uneasiness in the side; has been well purged, and passed many scybala; blister healing.

Cont. med. u. a.

25th July.—Has no acute pain, but there is much weight in the side; restless nights, and frequent rigors.

Cont. ut supra.

26th July.—Feels better; less cough; has very little pain in the shoulder; slept better; has still weight and uneasiness in the side; bowels bound.

Cont. med. u. a. Rept. Pulv. jalap. comp. u. a.
Cras mane sumend.

27th July.—Has been well purged by the medi-

cine; stools large and feculent; feels languid, and has no appetite.

Cont. baln. et acid. nit.-mur. dil. u. a.

At this period of the case it became evident that this young gentleman's only chance of escape would be found in a sea-voyage and a residence in Europe. I therefore gave him a certificate to entitle him to a furlough; and I made him prepare for an immediate departure for England, continuing until he left the station to pursue Dr Scott's nitro-muriatic acid system, and attending to the bowels. I was induced to resort to the use of the nitro-muriatic acid for two reasons: In the first place, Mr R. was constitutionally liable to pulmonary complaints, and the mercury seemed to irritate his chest; and, secondly, I had found the nitro-muriatic acid a useful prescription in functional derangements of the liver, and I was anxious to try its effects in a case in which there was a tendency to an organic affection. Mr R. went to England, where he regained his health, and afterwards returned to India, and is now rising in his profession.

In this case there was, I conceive, an inflammatory affection in the substance of the liver, on the convex portion of the great lobe; and at different periods in the course of the case the peritoneal coat of the liver became affected with inflammation, and it is probable that adhesion to the peritoneal lining of the diaphragm ensued. Latterly the lungs were in danger of being involved in the morbid affection. As the case, which thus became so complicated, occurred during the rains, and in cold damp weather, it required to be treated with caution.

The following is a case which I have always considered peculiarly instructive; and I give it as a contrast to the cases of Mr H. and Mr B. (vide pages 32 and 39), being also that of a medical man; for while in those cases affections of the liver were not suspected until too late, in this, evils were ascribed to the liver which it did not produce.

On the 5th of November 1825, I was called to a station twenty-five miles distant from my own, in the Tanjore district, to see Mr Assistant-Surgeon S——. When I arrived, at eight o'clock P. M., I was informed that he had been suffering for several days from fever, and that there latterly had been a complete obstruction of the bowels, which had just been overcome by repeated glysters. The pulse was eighty-six and not hard; tongue clean; skin moist; but Mr S. complained of having every now and then cold sweats. Attempts to lie on the left side produced pain and coughing. There was no enlargement of the liver perceptible; but hard pressure under the cartilages of the ribs, on the right side, gave him some pain. There was much irritation of the stomach, and Mr S. said he had not retained any thing he had swallowed for five or six days.

I applied thirteen leeches over the stomach and along the margin of the ribs of the right side, by which means about twenty ounces of blood were removed, and I commenced the use of calomel in sixteen-grain doses every three hours.

6th Nov.—Symptoms continue much the same as in the first report. There is still uneasiness with cough when the patient lies on the left side, and the

stomach continues very irritable. The greater part of the calomel swallowed during the night has been vomited up, unchanged in its appearance. I applied a large blister over the stomach, gave an effervescing draught, and directed one drachm of mercurial ointment to be rubbed in on the thighs and legs every three hours. In the afternoon the irritability of the stomach appeared to have subsided, and I endeavoured to give some nourishment; but Mr S. could swallow only a little tea, which was followed by extremely acid eructations. No stool since yesterday. I gave one scruple of rhubarb and two scruples of magnesia; and as the blister had only caused redness, I allowed it to remain. It did not produce vesicles until after it had been twelve hours applied.

7th Nov. 6 A. M.—Has not slept; has still occasionally cold sweats; pulse eighty-six and soft; can lie on the left side without much uneasiness; skin of natural heat; tongue quite clean, without being unnaturally red; no thirst. On taking a little tea without milk he vomited, and brought up the rhubarb little changed in its appearance. Much troubled by acid eructations.

Habt. magnes. carbonat.....ʒ ss. statim.

℞. Hydrarg. submur..... ℈ i.

Sexta quaque hora sumend.

Cont. ungt. hydrarg. fort. u. a.

Noon.—No more vomiting; has had two small dark-green coloured stools; thinks the magnesia relieved the acidity of stomach; other symptoms as above; I repeated the magnesia, and continued the mercury.

Vespere.—No change. Mr S. feels perfectly easy. Says he has no doubt an abscess has formed in the liver, and he begins to fear his head is becoming affected. I continued to push the mercury, rubbing in, and substituting for the calomel five grains of the blue pill every three hours. He remained in much the same state throughout the night.

8th Nov.—Is persuaded that there is not a chance of his living. Having arranged his private affairs, he requested me to leave off administering medicine; but as his pulse still kept up, I persuaded him to allow me to persevere; in the evening there were symptoms of aberration of mind.

Cont. med.

9th Nov.—I now found the symptoms of approaching dissolution to be so decided, that I left off the use of medicine; wetting the patient's mouth occasionally with weak wine and water.

Mr S. continued to sink, and died without apparent suffering at four o'clock on the morning of the 11th.

Sectio Cadaveris.—On examination I found the liver of its natural size, and apparently healthy. Leaving it in its place, I proceeded to examine the stomach, which externally presented a very extraordinary appearance. To the extent of five inches from the pylorus it looked more like a piece of gut very much contracted than the smaller bag of the stomach. The cardiac end was full of fluid, and on laying it open, I found that it contained, in an unchanged state, almost all the medicines and nourishment which I had administered. The coats of the pyloric division of the viscus were thickened to a very

remarkable extent, and the pyloric orifice appeared to be completely strictured. The whole of this portion of the stomach gave indication that there had existed a high degree of inflammation; so that the vascular coat looked almost as if blood had been extravasated in it. The contents of this end of the stomach were a black mucus, adhering in some parts firmly to the corrugated villous coat. I found the pancreas double its natural size, and schirrous throughout its whole substance.

On cutting open the liver, I found its internal structure to all appearance perfectly healthy, and its peritoneal covering had not any where formed adhesions to the surrounding parts. The gall-bladder was gorged with black bile. There were no other morbid appearances.

I was informed by the hospital assistant at the station, that Mr S. had experienced dreadful sufferings on the 2d, 3d, and 4th days of November; and that, from the commencement of the attack (31st October), he had been constantly retching. Mr S. himself told me during his illness, that he had long suffered from dyspepsia, which he and others had ascribed to an hepatic affection. He had been recently under treatment for liver complaint, when in Europe on sick certificate; and since his return to India he had suffered severely from the Mysore (an intermittent) fever.

The interest of this case arises from the circumstance of the patient having been a medical man of much intertropical experience, sound judgment, and perfect coolness; who had studied his own case for five years, and who during that period had been at

different times under the treatment of other practitioners; yet we find him regarding a disease in his pancreas and pylorus as an hepatic affection; taking gastritis for hepatitis, and obstruction at the pyloric end of the stomach for abscess of the liver. Nor is it undeserving of being mentioned, that since my return to this country, while conversing with one of the most eminent medical practitioners in this city on the diseases of the East, he happened to refer to an obstinate case of hepatitis in a medical officer on the Madras establishment, who had been lately under his charge. I immediately discovered that his patient had been the gentleman whose case I have just detailed; although I had some difficulty in persuading the distinguished physician to whom I have alluded, that his late patient had died with a liver not only perfectly sound, but one which, to all appearance, had never been diseased.

The next case, which is that of an intimate friend of my own, was communicated to me by his medical attendant, and strikingly illustrates the insidious manner in which puro-hepatitis may commence, and the disappointments to which we are exposed, when abscess has formed without our knowledge.

"Colonel M—— complained on Friday last (31st August 1823); but *having had a dinner* on Thursday, though moderate in liquor, he thought he had eaten something which had disagreed with him. He felt a fulness in his side. On Friday night, though his pulse continued good and his skin cool, he felt extremely uneasy; and as on Saturday he was still more so, thirty

leeches were applied to his side, his pulse being still soft, and only eighty-four. During the night of Sunday he felt great pain in the side; and by daylight in the morning of the 3d September he called in medical assistance, when his pulse was found upwards of 100, and the symptoms appeared so urgent, that forty ounces of blood were drawn from him, when he fainted, which was followed by relief; his pulse was lowered, and the feverish symptoms disappeared; but as his side was still tender, he was cupped, leeched, and blistered, and calomel was given in large doses. On the 4th, when ptyalism appeared to be commencing, he unfortunately could not be persuaded to persevere with the calomel. The pain in his side returned; fresh bleedings, &c.; appeared to have got the better of the disease. No pain or uneasiness remained; he could lie with ease on either side; pulse reduced to 84; skin cool and moist. Ptyalism never actually took place. Calomel pushed to a considerable extent; scruple doses every five hours, besides frictions with ung. hydrarg. On the 6th he was cheerful, sat out in his verandah in front of his sleeping room. The next morning he had hiccup, but his pulse continued good, and his tongue pretty clean; took a considerable quantity of nourishment. No pain in his side on pressure. Until the 8th we did not apprehend any danger. All the afternoon of that day he slept or dozed, but he moaned much, and turned from one side to the other. Pulse had been intermitting in the morning. At night about eleven o'clock he sunk rapidly, and died at midnight.

"On dissection, we found three abscesses in his

liver. One rather large in the left lobe, which pressed against the stomach (there had been a good deal of nausea during the disease). Another abscess in the upper part of the right lobe, which pressed against the diaphragm; and, lastly, the third in the lower part of the right lobe. This had burst into the cavity of the abdomen, and had become the immediate cause of his death. For some weeks before the colonel was laid up, he had been complaining of flatulency, and every symptom of a vitiated state of the biliary secretions. He had also hæmorrhoidal swellings. This last affection I have frequently seen come on before an attack of hepatitis.

In this case, as in that of Mr Assistant-Surgeon H. (p. 32), I have no doubt that the abscess had formed some weeks before the symptoms of organic disease were recognised.

III.—CHRONIC SERO-HEPATITIS.

CHRONIC hepatic inflammation is a subject well deserving of the best consideration of every medical man, whether engaged in intertropical or in European practice. We have seen that even the most mortal lesions of the liver may take place before either the patients or their medical friends are aware that the gland is in any degree diseased. It must be at once obvious, then, that there will be still greater difficulty in detecting the chronic affections of this most important viscus, before they have attained a destructive hold on the gland. In India, the condition of the liver being a constant subject of anxiety, both to medical and lay-residents, bad health is almost invariably ascribed to a derangement in the hepatic system. Within the tropics, therefore, although there may be a mistake as to the nature of the affection, the liver is not likely to be overlooked. In Europe the case is different, for here we are not, perhaps, sufficiently alive to the liability of the liver to disease.

It is possible that the great number of the inhabitants of Great Britain who have been born within the tropics, or whose parents have been long resident in hot climates, may have introduced into this coun-

try a species of hereditary delicacy in the liver, or a predisposition to disease in that gland, not indigenous in these latitudes, which renders attention to the hepatic system more necessary than it otherwise might have been; and at all events, while so many of our valetudinarians have been themselves exposed to a tropical sun, the study of the chronic affections of the liver is one of the most important to which the physician can direct his attention.

The distinctions between acute inflammation in the parenchymatous substance and in the serous covering of the liver, are applicable to chronic hepatitis. And although there will be less difference as to the treatment of the two affections in their chronic state, still they differ both in their symptoms and terminations.

Acute inflammation of the peritoneal covering of the liver may be overcome without being followed by an immediate return to health; and it almost invariably happens, that after repeated attacks of acute sero-hepatitis, the outer membrane of the liver remains in a state of chronic inflammation, or at least in a condition extremely liable to assume that type. Cases also occur in which, without any previous acute inflammation, the coat of the liver is attacked with a slow and tedious inflammation.

The symptoms of this, as of the acute disease, are much influenced by the situation of the affection. If the inflammation be in the upper convex surface of the liver, the consequent cough and difficulty of breathing, as well as the situation of the pain, may lead to the belief that the case is one of pneumonia. When the covering of the concave surface of the liver is the

seat of the disease, the effects produced by the different conditions of the stomach, and the consequent derangement of the digestive organs, are apt to be ascribed to dyspepsia, and the more important disease is overlooked. If, again, the anterior margin of the liver be affected with chronic inflammation, although affections of the great gut may be mistaken for liver complaint, yet the pain, and frequently the swelling of the liver, leave little risk of the hepatic affection not being discovered.

Symptoms.—The symptoms proper to this disease, in whatever portion of the coat of the liver it is situated, are weight, and a feeling of fulness in the right hypocondrium; shiverings, and occasional and irregular feverish attacks, with heat of skin, and thirst; a foul brown or white tongue, with prominent papillæ; the pulse is generally hard, but not much accelerated; an increased and unhealthy condition of the biliary secretion; irritability and derangement of the stomach and bowels, and not unfrequently dysenteric symptoms; a sallow or jaundiced skin; urine scanty and high coloured; pain over the right clavicle, or in the direction of the right scapula, with inability to lie comfortably on the left side; sleep disturbed.

Causes.—The causes of this affection are similar to those of the more acute disease.

Treatment.—In chronic sero-hepatitis venesection is seldom resorted to, the topical removal of blood being generally found the best mode of accomplishing depletion in this disease. Free and repeated applications of leeches or of cupping-glasses is the best practice; and a succession of large blisters ought to be

applied over the seat of the liver. The bowels, in the commencement of the treatment, should be freely opened, and must be carefully regulated throughout its course. As it is highly probable that considerable thickening and alteration of structure have taken place on the surface of the liver, mercury should be slowly but steadily exhibited until salivation is produced. This medicine should be resumed or not, according to circumstances; for it must be borne in mind, that the liver is not unfrequently kept in a morbid condition, by persevering in the use of mercury when it is no longer necessary. Indeed, it is advisable, in some cases of chronic hepatitis, to endeavour to effect a cure without exhibiting mercury at all. This, however, must be left to the practitioner's judgment. A case illustrative of the disadvantages of unnecessarily continuing mercury will be found in the sequel.

The treatment of chronic hepatitis is almost always tedious. The practitioner may be forced to suspend and resume the exhibition of mercury several times, or, as has just been stated, he may be forced to desist from the use of this medicine altogether. After a succession of blisters, it may become advisable to resort to issues or a seton. The cure, as soon as possible, should be assisted by change of air, and by regular exercise in a carriage. When the inflammatory symptoms are removed, a course of chalybeates, or other tonics, should be exhibited; and hot sea-bathing, alteratives, and aperients, from time to time prescribed. It is of very great importance, both during the treatment of these cases, and after recovery, that the patient should be warmly clad. But care should be

taken to avoid sleeping in a heated apartment, in flannel, or with too many bed-clothes. In this, as in every hepatic affection, where it is practicable, exercise on horseback should be taken.

I may add, that I have been frequently consulted by persons who had frightened themselves into the persuasion that they had liver complaint, from their having a fixed and weary pain, increased on pressure, under the margin of the ribs. The absence of every other symptom of hepatic derangement leads of course to farther inquiries; and in all such cases I have generally found that the pressure of the arm of a chair while seated, or too low a writing table, or a long rubber at billiards, or some other such cause, has given rise to the symptom which has occasioned the false alarm.

IV.—CHRONIC PURO-HEPATITIS.

Chronic inflammation in the substance of the liver, while it is one of the most dangerous, is also one of the most obscure affections to which that organ is liable. This will be at once apparent when the insidious approach and undefined symptoms of the acute disease are considered.

Symptoms.—An uneasy sensation of fulness or of weight in the right side, with an occasional deep-seated and dull pain referable to the liver. On examination the liver may be found perceptibly enlarged, and there will probably be much disinclination on the part of the patient to allow of free pressure; the tightness of his clothes being sometimes a source of annoyance. There is a weary pain in the top of the shoulder and over the scapula, and, in some cases, down the back, on the right side. There is sometimes dyspnœa. Although the patient may say he can lie on either side, yet he prefers the right side; and during sleep he invariably turns on his back. Tongue foul and clammy, and in the morning brown and dry; thirst; pulse little affected, being even sometimes lower than is natural. Skin hot and dry, or cold and clammy; horripilation, and sometimes shivering fits. There is much flatulence, and derang-

ed digestion. The bowels are greatly disordered, the patient passing stools sometimes clay-like, at other times apparently composed entirely of black or green frothy bilious crudities. There are always hæmorrhoidal swellings; urine turbid, depositing a lateritious sediment. The patient's nights are restless, and his sleep unrefreshing. His spirits are very much depressed. There is almost always in these cases a jaundiced state of the skin, and the countenance assumes the characteristic appearance which so generally attends organic disease. Many of these symptoms may be absent; and it must be confessed that they may almost all be produced by mere functional derangement of the liver.

Causes.—Like all diseases of the liver, chronic puro-hepatitis may be the mere result of exposure to a high atmospheric temperature, with no other cause. But it is certain that this affection, like schirrus, tubercles, and the other hepatic diseases of the dram-drinker, is brought on in all climates, by intemperate habits of eating and drinking.

Treatment.—Few diseases require more unremitting attention on the part of the practitioner, and more patience from the sufferer, than chronic puro-hepatitis. The progress of the disease is invariably tedious, and there are frequent fallacious appearances of recovery, followed by relapses; and cases even occur in which the treatment apparently occasions acute inflammation.

It is seldom necessary to remove blood in great quantity at one time: but leeches and cupping glasses ought to be repeatedly applied; and the extent to

which depletion is thus to be carried, must depend on the urgency of the symptoms, and on the constitutional strength of the patient; the practitioner always bearing in mind that his treatment may give rise to so much excitement as to bring on inflammation, calling for the most decided practice. Topical blood-letting ought to be the very first step in the treatment; to be repeated more or less frequently throughout the course of the disease. The leeches or cupping glasses must be followed without delay by epispastics. Counter-irritation being undoubtedly the most important part of the treatment, a large blister should be applied over the whole region of the liver, and repeated as soon as possible, or succeeded by tartar-emetic plasters, the moxa, or caustic; or, if the case be a bad one, and if the patient will allow it, actual cautery may be resorted to. Nothing should be allowed to interfere with the persevering use of epispastics, potential or actual cautery, or setons.

Mercury unquestionably is the internal remedy on which the hope of curing chronic puro-hepatitis must principally depend. But it will be necessary to combine with it antimony or ipecacuanha, tonics, anodynes, and cathartics. One formula will not suffice. Various combinations must be tried;* mercurial inunction being also resorted to, or the inhalation of the the fumes of mercury may be necessary.

* It is unnecessary to introduce here a variety of recipes. In my own practice I have invariably made my prescriptions extemporaneous, adding such ingredients as the peculiarities of the case, or my previous acquaintance with the patient's constitution, might particularly indicate, and sometimes reducing

Should the mercury be found injuriously stimulating to the morbidly affected liver, or to the system generally, the nitro-muriatic acid should be tried. It has in many cases proved a useful substitute for the more potent remedy, or at least rendered a smaller quantity of mercury sufficient. In some instances its effects have been quite extraordinary.

The bowels throughout the treatment of the disease must be most carefully regulated, and every appearance of intestinal irritation immediately checked. In the hope of strengthening the system, and of checking the irregular feverish symptoms which so generally prevail, the early use of quinine may be cautiously tried, persevering in its use or not according to circumstances. The hot-bath, if possible of

the mercury to an exceedingly minute quantity. The following I have found useful formulæ:

℞ Calomel ..... gt. xij.
Opii..... gt. vi.
P. antimonialis..... gt. xiv.
Misce et divide in pil. xii. una ter in die sumend.

℞ Pil. hydrarg..... ʒ ss.
Pulv. ipecac..... ℈ ss.
Pulv. zingiber.....
Ext. hyoscyam..... *a a* gr. xii.
Misce et divide in pil. xii. una vel duo mane et nocte sumend.

In India, I have found the following method of fumigating with mercury very efficient: Some of the mass of blue pill is put upon a piece of dried cow dung, which is ignited, and placed between the patient's legs, while he is covered up with blankets. The process may be assisted, if necessary, by blowing the burning substance. In this country, where cow dung is not in such favour, perhaps a piece of peat might supply its place.

sea-water, will be found a useful auxiliary in the treatment of chronic diseases of the liver. Throughout the treatment regular exercise should be enforced, in the first instance in a carriage, and as soon as appears advisable, on horseback. Should the case happily proceed to a cure, change of air should be resorted to as soon as appears safe; and amusement in every shape, without over-fatigue, ought to be encouraged. With this view nothing is perhaps so useful as travelling, and occasional visits to watering-places of general resort. Towards the complete re-establishment of health, an entire change in the habits of the patient will generally be necessary. Repeatedly renewed courses of chalybeates and aperients should be prescribed, sea-bathing and riding on horseback being insisted on when possible. In every stage of the treatment the rules already laid down on the subject of clothing ought to be carefully attended to.

When chronic puro-hepatitis is not overcome, the liver becomes throughout diseased; numerous abscesses form in its substance, tubercular swellings take place on its surface, or general softening and disorganization of its parenchymatous substance take place, the patient dying of dropsy, atrophia, or of incurable green jaundice.

I have now concluded the discussion of those organic affections of the liver, of which there is, generally speaking, a possibility of ascertaining the nature during life, and which are within the reach of art; or which at least admit of treatment, the rationale of which is explainable. As to the tubercles, hydatids, schirro-

sities, various softenings, indurations, enlargements, and other appearances discovered on dissection, although they may be suspected during treatment, the knowledge of their existence is commonly of little use either to the patient or his physician; while it not unfrequently happens that dissections exhibit extraordinary lesions of the liver, which during life had given rise to no symptom referable to that gland.* In my apprehension, therefore, it would serve no practical purpose to describe in the present work the various diseased appearances to which *post mortem* researches prove the liver to be liable. It is proper to observe, however, that in many of the anomalous diseases of the liver the practitioner may do more harm than good by injudicious interference. I need hardly repeat, that very extraordinary lesions of this organ may exist for years without presenting any very decided symptoms; and it is certain that chronic affections of this nature may be brought into a state of fatal activity, by rash attempts to remove them, while they are in truth incurable. Mercury, I fear, has much to answer for in this way. When, therefore, there is reason to suspect the existence of schirrous, tuberculous, or other chronic and dangerous diseases of the liver, we should content ourselves with prescribing to symptoms as they

* It is wonderful how often in hospital dissections, almost every known hepatic disease is found in subjects who had not, while patients in the House, exhibited a recognisable symptom of disease of the liver. In one of those instances I found that the whole parenchymatous substance of the liver had disappeared, and that its place had been supplied by many thousands of hydatids.

occur. A small topical bleeding, followed by blisters, may keep down any inordinate action ; and well-managed purgatives may do much good. If mercury should appear to be necessary, it ought to be exhibited with extreme caution, and with unremitting attention to the state of the patient.

V.—FUNCTIONAL DERANGEMENTS OF THE LIVER.

"*Bilious complaints*" are at present so much in vogue, that every dyspeptic affection is exceedingly apt to be ascribed to the secretion of the liver; so that from a headach consequent on an overloaded stomach, to an attack of autumnal cholera morbus, the useful word *bile* explains all difficulties. Under this head, therefore, I might, without much impropriety, embrace the subject of indigestion in all its varieties. As, however, I wish to limit myself to disorders purely hepatic, I shall as much as possible avoid entering on the wide field of dyspepsia.

The functional derangements of the liver may be classed under five heads:—1. Morbid vascular fulness, attended with increased activity of the circulation, and producing a redundant secretion of bile; 2. A deranged state in the secerning functions of the liver, producing unhealthy bile; 3. Great deficiency, or even total suppression, of the biliary secretion; 4. Jaundice; and, 5. Gall stones.

1. *Increased Vascular Action in the Hepatic System.*—This is the derangement which so often alarms tropical valetudinarians, and persons in all climates who live freely.

Symptoms.—There is a sensation of fulness and uneasiness, not amounting to pain, in the region of the liver; there are indigestion, flatulency, and occasional vomiting of bilious crudities; the bowels are loose, and the evacuations dark coloured, hot, and frothy; or quantities of pure bile may be discharged from the bowels. The tongue is foul, the mouth clammy; there is thirst; skin moist and hot; pulse quickened and full; dyspnœa; the patient is languid; has occasional chilly fits; has pains in his limbs; is disinclined to take exercise; has headach and vertigo; urine high coloured. On examination, if the patient be thin (which, however, is not usually the case with such patients), the liver may be discovered to be enlarged, and there is morbid sensibility, on pressure, under the margin of the ribs.

The liability to such a condition of the liver is one of the most common and early effects of residence in a hot climate. It is of very usual occurrence in India; and the symptoms in that country are sometimes so much aggravated as to lead to the treatment of the case as if the disease were acute hepatitis; a mistake which may give considerable trouble by leading to injurious depletion; while the exhibition of mercury to any extent in the functional disorder generally does more harm than good. High living and dissipated habits are a very common cause of this hepatic derangement; and some persons are constitutionally liable to a redundant secretion of bile.

As the part to which secretion is destined regulates to a certain extent the secerning organ, so an irritable state of the duodenum will prove the exciting cause

of increased hepatic action. Sudden checks of perspiration and over-fatigue, whenever there is a predisposition to hepatic derangements, are extremely apt to excite the biliary secretion. Particular substances of diet, the autumnal season, and mental anxiety, with many individuals, materially increase the secretion of the liver. The bilious attacks of children are very generally attendant on the fruit season; many adults have regular autumnal bilious attacks; and I have known of more than one instance in which bilious vomiting was invariably produced by distress of mind or mental irritation.

Treatment.—Persons who are liable to a determination to the liver, sometimes, by experience, become aware of its approach, and by a timely dose of medicine, may arrest it at its very commencement. Others accustomed to its attacks relieve themselves by leeches applied to the side, and by a dose of medicine, without "troubling the doctor." This, indeed, may be considered as the rule of practice; and, except in very troublesome cases, topical bleeding and free purging will generally be all the treatment required. When, however, the symptoms run high, more active steps will be necessary. Venesection must precede the leeches or cupping-glasses; a scruple of calomel will be necessary to quiet the stomach, and to produce the other good effects of this medicine on the chylopoetic organs; followed by repeated doses of the sulphate of magnesia, in combination with the tartrate of antimony. The leeches or cupping glasses ought to be succeeded by a large blister, while the strictest antiphlogistic regimen must be enforced.

Such practice will invariably relieve the urgent symptoms. Should an irregular state of the functions of the liver ensue, a short alterative and aperient course, followed by chalybeates, moderate diet, and regular exercise, if possible on horseback, will probably complete the cure.

There are few derangements incident to the system, in which exercise is more beneficial as a preventive, than in this vascular fulness of the liver. Those who are subject to it are well aware that indolence will bring on an attack; and I have frequently, by enforcing attention to the bowels, and perseverance in regular "constitutionals" (as morning and evening rides are well termed in India), overcome an inveterate tendency to this affection.

A liability to increased vascular action of the liver, and redundant secretion of bile, particularly within the tropics, requires the greatest attention on the part of the patient, as being apt to lead to organic disease of that gland. Every endeavour should be made to discover the exciting causes of the disorder; and any change of habits, or of diet, which may appear necessary, should be rigidly attended to. As a general rule, regular exercise and abstinence will prove the most effectual means of warding off such hepatic affections. Should this not prove effectual, change of climate must be resorted to.

2. *A Deranged State of the Secreting Functions of the Liver, producing unhealthy Bile.*—This disorder is attended with great irritation and excitement of the system, and not unfrequently occasions what are called bilious fevers.

I have made a distinction between mere redundancy of bile resulting from increased action of the liver; and an acrid or vitiated and unhealthy state of the bile itself, producing general disorder in the alimentary canal; not only because I have been able in practice to distinguish these different disorders, but also because they require different modes of treatment. In the first there is a mere redundancy of healthy bile thrown into the duodenum; in the second, not only is the bile vitiated, but the whole chylopoetic secretions are in a depraved state.

From the circumstance of the evacuation of depraved bile usually becoming the most prominent symptom, early in the disorder, the disease has been ascribed to a change in the biliary secretion; and it seems highly probable that the disorder really has its origin in derangement of the hepatic function; but this is a question of little moment, since its determination would not influence the treatment; and it is very certain that the whole chylopoetic viscera soon become involved in the derangement.

Symptoms.—Headache, nausea, and vertigo, warm and dry skin, full quick pulse, excited tongue, thirst, sensation of heat in the abdomen, flatulence, tenesmus, dark-coloured and hot alvine discharges, and high-coloured urine; sometimes much uneasiness in the right hypochondrium. This very nearly approaches an attack of cholera morbus, in which burning pain of the epigastrium and severe griping are soon followed by great irritation of the stomach, and constant vomiting and purging of bilious matters, attended with headache, a brown dry tongue, excessive thirst, rapid pulse, scanty urine, and ultimately spasm of the

abdomen, cramps in the extremities, and cold perspiration.* Or the first symptom may be high fever, in which the excessive irritability of the stomach, and determination to the head, immediately demand our undivided attention.

CAUSES.—The immediate cause of this affection, as already stated, appears to be derangement in the hepatic function, and a vitiated and irritating condition of the bile, which is early in the disease poured out in such quantity as to become the most prominent feature in the consequent symptoms. Of the remote causes, the most constant are climate and the season of the year.

* It is unfortunate that the pestilence which is at present ravaging the world should have obtained the name which had been already appropriated to the disease described in the text; for although professional men are now generally aware of the distinction between the two maladies, the public are far from being equally enlightened. The truth is, that the only resemblance between the two diseases is, that violent discharges from the stomach and bowels occur in both. But in the common cholera morbus of this and other countries, the discharges are the natural though depraved secretions of the stomach and intestinal canal; while in the pestilential cholera the watery and saline portions of the blood, in an unchanged state, are suddenly withdrawn from the circulation, poured into the intestines, and discharged from the system. In the former disorder the blood is perhaps improved by the discharges, and the activity of the circulation is increased. In the latter and more formidable disease, important and necessary portions of the blood being removed from that fluid, it is no longer fit for its purposes, or capable of being conveyed by the blood-vessels, and the circulation ceases. *Cholera Morbus,* therefore, is an increased activity in the secerning operations of the abdominal viscera; *Cholera Asphyxia* suspends all secretion.

In hot fruit seasons cholera morbus often becomes epidemic; and few have been exposed to a tropical climate without suffering from such "bilious attacks." Many in this country are liable to have yearly autumnal attacks of cholera morbus; others suffer from severe bilious derangement after the slightest excess; and some persons have the most violent bilious affections, produced by inconceivably small quantities of particular wines, condiments, or other matters of ingestion. Sudden checks of perspiration, or changes of temperature; mental affections, such as great grief, anxiety, or uncontrolled passion, are extremely apt to derange the chylopoetic secretions. Long-continued fatigue, as when troops after a campaign go into cantonments, or into quarters, after a long march; or when one in high condition has his active employments interrupted by accident, are among the most frequent causes of hepatic derangements, cholera morbus, and bilious fever. Dyspeptic complaints of long standing are extremely apt to bring on, from time to time, a depraved condition of the hepatic secretions; but it would appear that the gastro-enteric mucous membrane, after long-continued dyspepsia, does not suffer the extreme irritation produced in a more healthy condition of it, by vitiated bile; for we often find dyspeptics vomiting up, or passing *per anum*, large quantities of green or black coloured bilious crudities, without suffering more than slight headache, with or without a little febrile heat, in consequence.

Treatment.—From the description just given of these derangements, it is evident that the treatment must often be very energetic. A disease which,

whether as its cause or effect, is attended with excessive irritability of the abdominal viscera, which is liable to produce high febrile symptoms, and which may run a fatal course in a very few hours, must not be trifled with. The cerebral symptoms, sometimes in the very outset, assume so alarming a character, that the patient is saved only by the most active measures. Venesection, leeches, shaving the head, applying cold, and blisters, have been frequently forced upon me as the first steps of the treatment, and before I could be considered as treating the original derangement. And although these are extreme cases, still they illustrate what is soon taught by intertropical practice, viz. that a patient's life is often more dependent on the physician's prescribing for the existing *symptoms*, than on his treating the disease *secundum artem.*

The objects to be attained in the treatment are, to relieve alarming local symptoms; to evacuate colluvies; to allay irritation; and to improve the secretions.

I have just alluded to the necessity which often arises, of paying undivided attention to the head, in those derangements consequent on a vitiated state of the chylopoetic secretions, and producing high excitement of the nervous and vascular systems. When a bilious attack is attended with severe pain and throbbing in the head, much heat of skin, and a full and hard pulse, blood must be freely drawn from the arm, and cold applied to the head. Should delirium supervene, the head must be shaved, leeches applied to the temples, cold to the whole head, and a large

blister to the occiput and nape of the neck; which last remedy I have found remarkably effectual in lowering the circulation and quieting the stomach; probably from its reaching the source of the nervous energy supplied to the heart and stomach by the par-vagum.

The state of the stomach next requires attention. It is generally the best practice to administer an ipecacuan emetic, and, as soon as it has operated freely, with a view to allay the irritability of the stomach, a scruple of calomel should be exhibited, and a large sinapism or a blister applied over the epigastric region; or it may be necessary, from the extreme irritability of the stomach, to withdraw blood by leeches or cupping-glasses, previously to applying the blister. It is of much consequence to quiet the stomach; for not only does irritability in this organ stimulate all the chylopoetic viscera, but the head and stomach act and re-act on each other; so that little progress will be made in a case, so long as the gastric or head symptoms are neglected. The greatest attention, therefore, is necessary to quiet the stomach and to relieve the head throughout the treatment of the disorder; and it ought to be remembered that the symptoms referrible to the head are not unfrequently aggravated, if not occasioned, by the too early use of anodynes and astringents.

We must now endeavour to get rid of the noxious matters, with which the vitiated chylopoetic secretions have filled the alimentary canal. An emetic has been prescribed in the outset of the treatment, and a dose of calomel exhibited. It is now necessary to ad-

minister cathartics; and the best, when the stomach will admit of them, are neutral salts, in combination with a small quantity of tartar-emetic; or, as more agreeable to the stomach, repeated doses of Seidlitz' powders may be prescribed. When fluids are not easily retained, pills of colocynth and hyoscyamus should be tried; and when the stomach rejects all medicines, large purgative glysters must be frequently repeated.

It is often possible to do much good by attention to the liver at this period of our treatment. This organ may be found, on examination, full, and morbidly sensible to the touch; and the best effects may be produced on the case by the application of twenty or thirty leeches, fomentation, and a blister, and the exhibition of another scruple of calomel. These means, followed by a few hours of rest, will generally be found to remove the symptoms both of fever and irritability; all that remains of practice being to act gently but fully on the bowels; for which purpose castor oil, when the stomach will bear it, with a few drops of laudanum to the dose, will be found the best medicine; or the action of the bowels may be kept up by the compound rhubarb pill, or by such a formula as will be found in the foot-note;* or Seidlitz or other

* ℞ Colocynth.
Pulv. rhei. a. a.....gr. xxiv.
Ext. hyos.....gr. xij.
Misce et divide in pilulas xij. Two at night and two in the morning.

Vel ℞ Colocynth. Pulv. rhei. a. a..... ℈ i.
Ext. hyos. calomel. a. a..... ℈ ss.
M. ft. pil. xij. Two for a dose.

salts, in a state of effervescence, may be prescribed daily, and the dose repeated if necessary. A few drops of laudanum may be often usefully exhibited along with cathartics. Indeed, it not unfrequently happens that intestinal irritation is all that remains to be got rid of; for although the secreting organs still continue to be morbidly excited, it is only the effect of reaction, and will subside immediately on the irritation being allayed. In such circumstances a powerful anodyne may put an immediate stop to all the symptoms. With this view solid opium, laudanum, the liquor opii sedativus, or the muriate of morphia, may be exhibited in a full dose; or, what is sometimes equally effectual, a small quantity of the anodyne may be frequently repeated. With some individuals hyoscyamus has a most satisfactory effect in soothing the primæ viæ, and it may be prescribed in cases in which the propriety of exhibiting opium is questionable.

It will sometimes be advisable to administer the anodyne *per anum*. Thus, a hundred drops of laudanum in a glyster will be found not only to quiet the intestines, but to remove the irritability of the stomach. These remedies may be assisted by a sinapism, or even a blister over the abdomen. It may be necessary, at this stage of the disease, to prescribe calomel and opium; a combination which in many cases of intestinal irritation proves a specific. A grain or two of calomel, and a quarter or half a grain of opium, every four or six hours, may therefore, in obstinate cases, be exhibited, care being taken that the mercury is not carried too far.

When these cases go wrong, it is generally either by the disease assuming the character of continued fever, or of fatal cholera morbus. In the one case, the brain gives way; in the other, the retching and intestinal irritation produce collapse, the pulse flutters and intermits, the respiration becomes hurried, the skin is covered with a cold perspiration, and symptoms of rapid sinking supervene. In such circumstances, we must lose no time in prescribing stimulants, sulphuric ether, camphor, brandy, the volatile oils, &c. with hot bottles to the extremities, hot blankets, or the spirit-vapour bath.

The last indication which I have mentioned, in a successfully treated case, is to restore the healthy condition of the secretions. For this purpose mercury is generally required; and this is frequently a very important portion of the treatment of the complaint. The prescription which I find most useful is one the basis of which is the blue pill;* or a grain of calomel with half a grain of opium may be given every night and morning. When the object in prescribing mercury is to improve the abdominal secretions, it will generally be found best to proceed slowly with the course; and I have seldom found greater quantities necessary than those I have mentioned.

The after-management of a patient who has suffered from a severe bilious attack generally requires tonics. In India the risk of a bilious fever assuming the cha-

* ℞ Pil. hydrarg.....ʒ ss.
Pulv. ipecac.....gr. xij.
Extract. hyosc..... ℈ i.
M. ft. pil. xij. One night and morning.

racter of an intermittent is so common, that it is generally advisable to give the patient the benefit of a short course of bark or quinine. We shall seldom, indeed, go wrong in endeavouring to restore the tone of the stomach and bowels by quinine, chalybeates, or bitters, after an attack of severe cholera morbus, or bilious fever, in whatever climate it may have occurred. The diet should be carefully regulated, and regular exercise enforced, prescribing, if necessary, change of air.

3. *Great Deficiency, or even total Suppression, of the Biliary Secretion.*—This is an hepatic affection, which is much more obstinate than the derangements which we have just been considering; and unfortunately it is very apt to terminate in disorganization of the viscus.

Symptoms.—These are, with the exception of the appearance of the alvine discharges, generally very obscure. There is perhaps a morbid sensibility in the liver; the patient will say "he *feels* that he has a liver." Pressure under the ribs, however, causes little uneasiness, and the other symptoms are often rather referrible to the duodenum and floating viscera, than to the liver. Thus there will be considerable uneasiness at the pit of the stomach, troublesome flatulency, restlessness a few hours after a meal, attended by a dull pain in the back, and a sensation of fulness deeply seated in the right hypochondrium. But the symptom which may be considered characteristic of the affection under consideration, is the appearance of the alvine evacuations. The fæces are found to be

clay coloured, or like newly-made lime mortar, generally unformed, and without the feculent smell; or they may be passed in the shape of hard balls, like the *album græcum*. But although thus unnatural, it is wonderful how frequently, in these cases, the fæces are passed with perfect regularity; and, as if to prove that bile is not indispensably necessary either to the peristaltic action of the intestines or to the concoction of fæces, I have treated cases in which the bowels were not only opened regularly once a day, but in which the fæces, with the exception of colour and smell, were apparently perfectly healthy. The appetite is generally good, sometimes unnaturally great; but the tongue is loaded, and the patient is liable to headaches; the countenance has a dirty sallow look; the pulse is slow; there is much languor, weariness of the limbs, and general inaptitude for exertion, bodily or mental; the skin feels damp and clammy, and the patient complains of occasional chills and night sweats; sleep disturbed and unrefreshing; urine at one time limpid and copious, at another thick, even when first passed, depositing much sediment. There is invariably great emaciation.

Causes.—The first object is to ascertain, if possible, whether such symptoms as the above do not result from an organic lesion; a question which it will be often so difficult to solve, that it is not unfrequently determined only by the result of the case. Should there be no apparent swelling of the liver (and the emaciation of the patient will usually enable us to examine this gland very satisfactorily), no pain on the top of the right shoulder, or cough, or sickness of

stomach, or difficulty of lying on the right side, we shall be justified in hoping the best, viz. that the symptoms result from a failure in the secerning apparatus of the liver; and the absence of jaundice, in cases in which the fæces are apparently wholly divested of bile, will warrant us in concluding that this fluid has never been secreted, otherwise its re-absorption would produce icteroid symptoms. Nor is it impossible that, in some instances, the deficiency is merely in some of the component parts of the bile; so that, being no longer of its natural colour, it is, although secreted, not to be traced in the fæces. But it does not appear to be necessary to pursue this inquiry farther; it is sufficient for my purpose to say, that a change, unaccompanied by any marked symptom of organic disease of the liver, has taken place in its secreting function, attended by derangement in the alimentary canal, proving injurious to the system generally, and bringing on atrophia.

The remote cause of this failure in the function of the liver is almost invariably a residence within the tropics. When the affection, in this country, seems to result from the excessive use of ardent spirits, there will be every reason to dread the existence of organic disease of the liver. The cases which I have met with, have generally been produced either by a long residence in India, or have been brought on by prolonged fatigue under a vertical sun, in occupations requiring exposure to the open air during the heat of the day. Of course, cases of this, as of every other hepatic affection, may occur, in which there has been no exposure to tropical climates.

It is hardly necessary to observe, that the appearance of the alvine evacuations will be much influenced by the matters ingested; thus milk and farinaceous diet produce stools very light in colour.

TREATMENT.—No functional hepatic derangement is more obstinate than a failure in the biliary secretion, when it has been allowed to continue for any length of time. Even when relieved, the patient is liable to relapses; and when the complaint occurs within the tropics, it is seldom radically cured without a long sea-voyage, and a residence in a temperate climate. Much, however, may be done by long-continued courses of medicine, occasional journeys, and a relief from harassing duties. We may at least have the satisfaction, by such means, of warding off organic disease, the risk of which (as in all cases of failure in the function of a gland) is in this affection very great.

In the treatment of this disorder mercury can never be dispensed with. It is not, however, necessary that the system should be rapidly brought under the influence of the medicine; alterative courses, suspended and resumed from time to time, being generally the best method in such cases. Thus the blue pill, in small quantities, given twice a day,* combined with

* ℞ Pilul. hydrarg.....gr. xxiv.
Pulv. opii.....gr. iij.
Rhei.
Ipecac.
Zingiber. a. a.....gr. xij.
Adde tinct. opii.....gt. xij.
Tere simul opt. et divide in pil. xij.
One night and morning, or one three times a day.

Dr Scott's nitro-muriatic acid bath, will often produce almost immediate good effects. The hot bath should also be prescribed twice or thrice a week; mercurial ointment, or some stimulating liniment, ought to be rubbed in over the liver twice a day, or a large hot plaster may be applied over the whole of the right hypochondrium. The bowels ought to be kept open; bitters should be early prescribed; to be soon followed by quinine and iron.

Along with such a course of treatment, exercise on horseback should be regularly taken, or, if convenient, boating and short trips to sea will be found very beneficial. The diet ought to consist principally of animal food, restricted of course as to quantity; and wine, or well-hopped malt liquor, in moderation, may be allowed. As it is of much consequence to enliven the patient's mind, he must be relieved from all harassing duties, and every encouragement should be given to amusements. The clothing should be warm, and the patient should be much in the open air. His bed-room should be large and well aired; and he must not load himself with bed-clothes during the night. As in this disease the extremities are generally cold, worsted stockings ought to be worn; and, if necessary, on going to bed hot water-pans, or bottles filled with hot water, may be applied to the feet. In this country, patients should be warned against sleeping with fires in their bed-rooms; a habit which is exceedingly pernicious to invalids of every description.

The following are cases of this obscure affection:—

Dharwar, Southern Mahratta Country, September 1819.—Captain P——, who has been about

eighteen years in India, has been latterly very much an invalid. He is weak and much emaciated, but as he holds the lucrative situation of paymaster to a division of the army, he has resisted the recommendation of various medical friends to seek recovery by a complete change of climate. The surgeon, who preceded me in charge of this gentleman, told me that his was a case of chronic hepatitis; and I found that he had, under various medical men, undergone without benefit several complete courses of mercury, in the belief of his having organic disease of the liver. The chief symptoms in the case were, the colour of the alvine discharges, and extreme emaciation of the patient. The bowels were perfectly regular, a large unfigured stool being passed every morning; but the fæces had the appearance of white mortar; urine copious and light coloured; appetite almost buliminous; abdomen prominent; much flatulency; no apparent swelling or hardness of the liver; but there was a *consciousness of having parts* deep seated in the right hypochondrium, which feeling, however, the patient could not call pain; and he made no complaint on hard pressure being used on any part of the abdomen. His skin was cool until bed-time, when there was usually an accession of slight fever. He had been gradually losing flesh and strength. Countenance cadaverous; pulse slow and weak.

This was the first of those obscure cases of hepatic derangement of which I had the treatment, and I was guided in my practice by the circumstance that no good had been done by remedies directed to organic disease of the liver. The patient, in truth, far

from reaping advantage, had been injured by "decided treatment," as it is called. The superintending surgeon of the division, who had long known the case, in correspondence on the subject, told me that he considered Captain P—— in a very hopeless state.

After a careful examination into the case, and a full consideration of its progress, and of the practice already resorted to, I put the patient on the following course of treatment, in the persuasion that his case was one of functional derangement only:

℞ Pilul. hydrarg.....gr. ii.
Pulv. ipecac.....gr. ss. M. ft. pil.
Mane et nocte sumend.

To use Dr Scott's nitro-muriatic bath every night at bed-time.

Animal diet was ordered, and the quantity of food restricted as much as possible. Daily morning and evening rides were prescribed, at first in a palanquin, and afterwards on horseback. The good effects of this practice were soon apparent by a change in the patient's appearance. His eye and lip improved, and his countenance lost some of its dull and earthy look, while his spirits rose, he gained strength, and he became more active. In a fortnight the fæces were tinged with bile, and the return of the hepatic secretions seemed to irritate the bowels, as at this time he complained of considerable uneasiness in the abdomen. I ordered half an ounce of the tincture of rhubarb, to be repeated every second morning; and half a grain of opium was added to each of the pills. With a view to remove the slight fever, which still came on in the evening, I prescribed an ounce of the infusion of

bark three times a day. By the end of October (six weeks after the commencement of this treatment), the stools were consistent, and nearly healthy in colour, the abdomen was less prominent, the febrile symptoms had disappeared, and the patient was gaining flesh and strength. Early in November, he was enabled to travel to a new station fifty miles distant, to which his office had been removed. I recommended that he should take, every morning at gun-fire (daybreak), tincture of rhubarb and tincture of gentian, of each two drachms, persevering in his constitutional rides, and, if necessary, resuming the alterative course and bark. Above all, I endeavoured to persuade him to take an early opportunity of confirming his health by a sea-voyage. In the end of November, Captain P—— informed me that, although he had continued to improve, yet having an opportunity of taking a sea-voyage on duty, he had resolved to follow my advice on that point. Unfortunately, in returning to his station by land, in the spring of 1820, completely re-established in general health, he was carried off by an attack of cholera asphyxia.

Case.—*Dharwar, Oct.* 1821.—Captain ——. This gentleman was engaged in a laborious geometrical survey of the newly-acquired districts in this part of India, and was consequently much exposed to the sun, from October 1820 till June 1821. On coming into quarters, he was attacked with bilious diarrhœa, apparently the consequence of change of habits, and mode of living; which was relieved by aperients, attention to diet, and regular exercise. His stools, however, continued unformed; and, al-

though he had only one daily, they were too great in quantity. In the beginning of July I found that his fæces had become clayey in appearance, and that, although his appetite continued good, he was daily losing flesh. He did not complain of pain, and, with the exception of these unhealthy stools, and the peculiar dirty-looking skin which accompanies this derangement, he had no symptom of disordered liver. I put him on a course of five grains of blue pill every night, and as I found that this acted too much on the bowels, I added half a grain of opium to each pill. His diet was restricted to animal food, and he was allowed a little port wine. In two weeks, although his bowels continued loose, his fæces had assumed a more natural colour; and as the mercury had slightly affected his gums, I suspended its use, prescribing twenty drops of muriated tincture of iron every morning.

For three weeks Captain —— continued in much the same condition. His appetite was good, but he did not gain flesh; he had one large loose stool in the twenty-four hours, which was light-coloured, but not otherwise unhealthy in appearance. On the 10th of August he requested that I should again prescribe for him; and as I found that his stools had resumed their unhealthy character, and had become more frequent, I put him once more on an alterative course of mercury, continuing the chalybeate drops. The good effects of this course were occasionally encouraging, the fæces improving in colour, and being sometimes consistent. On the 1st of September, his mouth having again become affected, I was forced to discon-

tinue the mercury, and substitute the nitro-muriatic acid; and I should have insisted on his immediately resorting to a change of air, had he not been extremely anxious to finish the map of the country which he had surveyed. This he accomplished on the 1st of October; and as he continued to have one or two chalk-coloured stools daily; and, from being a stout and healthy looking man, had become emaciated and feeble, I lost no further time in giving him the benefit of a sick certificate, recommending change of air. His regiment being at a healthy station, he resigned his laborious appointment in the newly-acquired districts, returned to his regimental duty, and is now high in his profession in India.

JAUNDICE.

Jaundice might perhaps with more propriety be considered as a symptom than as a disease; but as it not only arises from various organic affections of the liver, but also often comes on without any other symptoms of liver complaint, producing general derangement of the system, it may safely be ranked as a distinct disease.

Dr Baillie has divided this disease into the Green and the Yellow Jaundice; a division, the propriety of which it is needless to say that every man of experience must admit. Green jaundice invariably marks the existence of organic disease of the liver, of which it is a very fatal symptom; yellow jaundice, again, may occur either as a symptom of organic disease, or of a mere functional derangement. It is not my present object to consider jaundice as connected with the organic diseases of the liver.

Symptoms.—It is scarcely necessary to describe jaundice, as there is no risk of a mistake in the diagnosis. This affection may come on very gradually, so that the patient's friends may discover it before he is himself aware of being out of order. The yellowness first appears in the eyes, and the whole skin may be deeply tinged before any symptoms of constitutional

derangement make their appearance. In other cases the disease commences with loss of appetite, flatulence, nausea, and violent retching; fulness, uneasiness, and sometimes pain, at the pit of the stomach; the urine is scanty and high coloured. When the disease arises from over-secretion of bile, there is vomiting and purging of bilious matters; when from obstruction in the biliary ducts, the retching brings up only undigested aliment, and some colourless fluid, while the fæces are light coloured, and have not their usual smell. In the first case the pulse is full and quick, and there are other feverish symptoms; in the second the pulse is often, at least in the first instance, slower than usual.

Causes.—In addition to the remote causes already mentioned as liable to give rise to functional derangement of the liver, jaundice is extremely apt to be produced by indolence and sedentary habits. The immediate cause of jaundice is the absorption of bile. This may take place either in the intestines or in the liver; and, as the nature of the disease, and the course of treatment, are influenced by the circumstances under which the re-absorption of the bile takes place, it is very necessary to attend to this distinction.

1. Jaundice may arise from absorption of free bile in the intestines; 2. The bile may be absorbed in the liver, although the gall-ducts are unobstructed; and, 3. Jaundice may arise from absorption of bile within the liver, consequent on obstruction in the biliary ducts.*

* I do not believe that jaundice can arise from a failure in the secretion of bile; for however unhealthy the blood may be in

1. *Jaundice from Absorption of Bile in the Intestines.*—Severe bilious attacks are very generally attended with a jaundiced state of the conjunctiva of the eye, and sometimes by a regular fit of jaundice. Since, in these cases, there is every reason to believe that the passage of the bile from the liver to the duodenum is not only free, but that the intestinal canal is loaded with bile, and since we know that the lacteals are capable of absorbing bile, it is, I think, highly probable that the icteroid symptoms in bilious attacks are to be ascribed to the intestinal absorbents, while the liver is no farther deranged than that its secretion is excessive.

TREATMENT.—It is necessary in practice to remember that jaundice may thus arise from the absorption of bile in the intestines. With the young and healthy there is little risk of misunderstanding the case; for the presence of free bile in their intestines generally indicates the nature of the case by sufficiently prominent symptoms. But in persons who have been accustomed to bilious attacks, whose intestines no longer suffer extreme irritation from the presence of a superabundant quantity of bile, the diagnosis is not so easy; and it is not uncommon to have the jaundice of tropical valetudinarians ascribed to disease of the liver, when in reality the liver is perfectly healthy.

In the treatment of jaundice occasioned by the absorption of bile from the intestines, little need be

such circumstances, it plainly cannot contain a secretion which has not taken place. This, I think, is illustrated by the cases in the preceding section.

added to what has been already said on the treatment of a redundancy of bile. Mercury is seldom required, gentle cathartics being in most cases sufficient. Neutral salts, in combination with antimony, should be daily administered, or aperients such as those prescribed in the foot-note.* The diet should be strictly farinaceous; the patient should be kept cool, taking, if there should be no fever, regular but gentle exercise. Of course, should there be any fulness or uneasiness in the liver, leeches must be applied to the side; or the urgency of the symptoms may render venesection necessary.

2. *Jaundice from Absorption of Bile within the Liver, the passage in the Duodenum being free.*—Jaundice may occur from absorption by the absorbents of the liver, while yet the bile is in the pori biliarii. This of course will arise either from a morbid activity in the hepatic absorbent vessels, or from a failure of function in the biliary ducts; or absorption of bile may ensue when there is an increased activity in the

* ℞ Pulv. Rhei. ..... ʒ ss.
Ext. colocynth. ..... gr. vi.
Pulv. Antimon. .....
—— Zingiber. .....
Ext. hyoscyam. a. a. ..... gr. xii.
Adde tinct. opii. ..... gt. xxiv.
M. tere simul optime, et divide in pilulas xij.
Sign. Two night and morning.
Vel ℞ Scammon. ..... gr. v.
Pulv. Rhei. .....
Potass. super-tart. a. a.... gr. x.
Misce, fiat pulvis in aqua sumendus.

secreting vessels of the liver, without a correspondingly rapid removal of the bile by the biliary ducts.

To one or other of these causes there will be reason to ascribe jaundice, when it is unattended by intestinal irritation, or by any marked change in the appearance of the fæces.

When absorption of bile under such circumstances does not go to any great extent, it merely produces the usual icteroid colour of Europeans resident within the tropics; and even when the skin becomes regularly jaundiced, the case is seldom attended with febrile or other symptoms of constitutional derangement. This description of jaundice is generally slow in its progress; and some individuals are never entirely free from it.

The remote causes of such an icteroid affection need scarcely be enumerated. Thus, a prolonged exposure to any thing which unduly stimulates the hepatic system, may predispose to jaundice of this description: a warm climate; a hot season; luxurious living; the abuse of spirituous liquors, &c. Nay, mercury unnecessarily persevered in, may of itself give rise to such a symptom as I am now considering; as is well illustrated by the following case, which is at the same time a useful example of a too common occurrence among "liver patients" and tropical valetudinarians.

At Sea, August 1827.

Lieutenant C—— had been five or six years in India, and, when he consulted me, was on his voyage home on sick certificate. He had by this time been some weeks on board ship. He told me that his principal disease in India had been dysentery; but that

latterly his liver had become affected, and had required much attention before he sailed. He now suffered from weight and uneasiness in the right side, bad nights, and an abominable taste in his mouth. His bowels were very torpid; fæces dark coloured; his appetite good; his skin was jaundiced, and the conjunctiva of a brownish-yellow colour; tongue foul; pulse slow. He informed me that he had taken a great deal of blue pill; and that, acting on the advice of the medical man who had attended him in India, he still persevered in the daily use of this medicine. On examination, I found slight fulness on the right side, apparently from enlargement of the liver. There was, however, no pain or tenderness on pressure. There had been no shivering fits or night perspirations, and no other appearance of organic disease of the liver. I told Mr C——, that whatever might have been the condition of his liver in India, I did not believe that it was now diseased; that his principal illness appeared to me to arise from his over-exciting the liver by taking mercury unnecessarily. I advised him to leave off the blue pill entirely, and to substitute a grain of aloes and half a grain of gum-mastich as a dinner pill. I also prescribed quinine and sulphuric acid, with moderate and plain diet. The effect of this change was in every way satisfactory. The skin soon lost its mahogany hue; the uneasy feelings in the region of the liver ceased; and his spirits, which were naturally buoyant, became exuberant. A costive habit was his only complaint at the end of the voyage.

The treatment, therefore, of a case of jaundice, which proceeds from an irregularity in the balance

between the secerning and excretory vessels, is to be cured rather by removing the cause than by medicine. And generally it will be sufficient to attend to the habits of the patient; or change of climate may be necessary; and aperients may be the only medicines required.

3. *Jaundice from Obstruction to the passage of the Bile in the Ductus Communis.*—The bile may be obstructed in the common duct by various causes. Mere thickening or inspissation of the bile may produce so viscid a state of that fluid, as materially to retard it in its progress to the duodenum. It may be obstructed by a morbid condition of the mucous lining of the ductus communis, or by a stricture in that duct. An impacted gall-stone may completely obstruct the duct. A spasmodic affection of the duodenum may bar the passage of bile into that gut. An enlargement of the pancreas, or a gravid state of the uterus, or a tumour in the abdomen, may press upon the gall-ducts so as to prevent the passage of the bile.

When the bile, from these, or from any other cause, is prevented from flowing freely into the duodenum, the biliary ducts and gall-bladder soon become surcharged with bile, absorption takes place, and jaundice ensues.

It is far from being unimportant to keep in view the different causes, which by possibility may obstruct the passage of bile; as these, when ascertained, lead to different lines of treatment. Thus, the treatment of a case arising from deranged secretion and a viscid condition of the bile, would be very different from that

of a case in which the bile is obstructed by the passage of gall-stone. So jaundice, caused by an enlarged and schirrous condition of the pancreas, must be viewed very differently from the same affection, when produced by a gravid uterus. Nor is it with a view to treatment only that the practitioner should endeavour to form a correct idea of the nature of the obstruction in the gall-ducts, which occasions jaundice, as it must be evident that the prognosis is entirely dependent on the nature of the obstruction.

When the gall-duct is obstructed by a viscid or inspissated state of the bile, it will very generally be attended or preceded by fulness or uneasiness in the right side, and constitutional derangement. The symptoms of obstructed bile come on gradually, the bile does not entirely disappear; ropy unhealthy portions may be discoverable in the evacuations; and there is not the severe pain which the passage of a gall-stone of any size produces.

In such a case as this, our object is to improve the biliary secretions, for which purpose the use of mercury will generally be necessary. The first step in the treatment, however, as in most cases of obstructed gall-duct, is to administer an emetic, which is useful not only by increasing the chylopoetic secretions, but probably in allaying the spasmodic action which the condition of the biliary secretion will in all likelihood have produced in the duodenum. An emetic may be farther useful, in these cases, by bringing away bile of such a character as to point out the source of the jaundice; and if we have reason to believe that the affection has arisen from a morbid

state of the bile, no time should be lost in resorting to mercury. It may even be necessary to produce salivation, before we materially improve the hepatic secretion. The mercurial course should be accompanied with the mildest diet; and the intestinal canal should be guarded by anodynes against the irritation, which is likely to ensue from any accumulation of vitiated bile flowing into it. Hyoscyamus, or opium with antimony, are therefore to be combined with the mercurials and aperients. In these cases it is sometimes necessary to resort to epispastics. A large blister may be applied over the liver, and the blistered surface dressed with mercurial ointment. The bowels must be particularly attended to, during the whole of the treatment, it being generally advisable to administer a gentle aperient daily. A little of Gregory's mixture, the compound rhubarb pill, a dose of Seidlitz, or a small quantity of Epsom salts, with bitters, may be exhibited. Gentle exercise should be prescribed, a swing or driving, in the first instance, followed by riding or walking exercise. After the jaundice disappears, much attention should be paid to the diet and to the state of the bowels.

Gall-Stones.—This complaint sometimes makes its attacks so instantaneously as to be mistaken for cramp in the stomach; and in persons of an irritable habit, from the circumstance of the severe pain being soon accompanied with a high pulse and other feverish symptoms, it is liable to be mistaken for acute hepatitis. Jaundice may arise, however, from a gall-stone before it reaches the common duct. Thus, if the calculus become impacted in the cystic duct, the bile may

be re-absorbed from the gall-bladder, and jaundice will follow. In such circumstances, there is generally little constitutional or local suffering. When a biliary calculus obstructs the passage of bile in the common duct, there is a sudden accession of violent pain, deeply seated in the right hypochondrium, and sometimes so circumscribed that the finger can cover the extent of it. It is little affected by pressure; but the patient, unable to lie, sits up with his body bent upon itself. The stomach, in ordinary cases, is immediately affected, and there is severe retching, but no bile is discharged. The bowels are constipated, and when stools are procured, they are light coloured, and deficient in the usual smell; jaundice soon ensues. The pulse is seldom affected, at least in the first instance, and the pain comes on in paroxysms; but instances, as I have said, occur, in which there is a high pulse, hot skin, white excited tongue, thirst, occasional shivering fits, and constant pain; so that the case has every appearance of being one of acute sero-hepatitis. Although such violent symptoms may be attributable entirely to irritability, still, even when we know that the case is one of gall-stone, there will be reason to dread, with such symptoms as I have mentioned, the accession of inflammation in the biliary apparatus; so that, even when mistaken for acute hepatitis, the active bleeding and other antiphlogistic remedies will prove the best means of warding off danger, although not required to the same extent in a common case of gall-stone.

Heretofore no practical good has resulted from analyses of biliary calculi, nor is it as yet ascertained to

what particular change in the system these morbid formations are to be ascribed.

Gall-stones seem sometimes rather to deserve the name of inspissated bile, than of earthy or crystalline concretions; but whether they are regularly-formed calculi, or merely concrete bile, is a question the determination of which is not of any practical importance, since hitherto no method has been discovered of altering the nature of the hepatic secretion, so as to prevent their formation. Our practice consequently in these biliary affections, is rather of the nature of cure than of prevention; although, no doubt, when the existing attack of gall-stone is overcome, it is our duty to endeavour to alter the nature of the biliary secretion, by attention to the patient's habits, and to the function of the liver.

Treatment.—With a patient writhing under the agony of an impacted gall-stone in the common duct, our first object must be to allay pain; our next to assist nature in evacuating the stone; while we endeavour, at the same time, to ward off inflammation.

The suffering from the passage of a gall-stone is sometimes so agonizing, that every other object must yield to the necessity of giving immediate relief to the patient; and for this purpose it is fortunately safe to administer opium. In severe cases, immediate recourse must be had to large doses of this drug, and to the hot-bath. The retching, consequent on the passage of a gall-stone, generally renders the exhibition of medicine in a liquid form useless. Two or three grains of solid opium, therefore, ought to be admi-

nistered, and repeated in an hour or two, according to circumstances, pledgets of lint soaked in laudanum being applied over the epigastric region. Should the opium be vomited, two or three drachms of laudanum must be administered in an enema, the hot-bath being repeated, or, if more convenient, hot fomentations applied to the stomach. Should these means be ineffectual, cupping over the seat of pain must be resorted to; and if the pain become sensible on pressure, and febrile symptoms supervene, venesection and blistering will be necessary.

Few cases, however, call for such decided steps as those last mentioned. A full dose of opium and the hot-bath generally remove the paroxysm; but the patient will continue liable to a return of it, so long as the gall-stone remains in the ducts. It is therefore necessary to endeavour to dislodge the source of suffering. For this purpose, nothing proves so effectual as an emetic; a medicine, which seems to have the power of acting on the nervous balance, probably by suspending the action of the sympathetic system, and leaving in full force the power of the nerves having their source in the spinal marrow and brain. But without pressing this explanation of its *modus operandi*, we know that the effect of an emetic is to promote a free discharge of fluids into the chylopoetic viscera, to suspend their contractile action, and to produce spasmodic action of the muscles of the abdomen and chest. No means, therefore, could be better contrived for propelling a substance, which obstructs a tube discharging fluids into the primæ viæ, than a medicine which produces such ef-

fects. Accordingly, as soon as we have succeeded in relieving the pain of gall-stone, an emetic should be prescribed, and its action rendered as effectual as possible.

If, after such a course of treatment, no recurrence of pain should take place, there will be reason to believe that the calculus has been dislodged; and we ought without farther delay to attend to the bowels, as they sometimes suffer great irritation from the discharge of the bile which had accumulated in them, or which the increased activity of the liver (the result of irritation) continues to pour into the duodenum. Aperients, in combination with opium or hyoscyamus, must without delay be exhibited. Or it may even be necessary to resort to repeated anodyne clysters, to quiet the lower intestines, and counteract the irritating effects of the bilious crudities which are forced into them. And as it is satisfactory and useful to ascertain the success of our endeavours to remove a gall-stone, a careful search should be made for it in the alvine discharges.

The patient should be put on farinaceous diet; arrow root, panada, tapioca, and similar mild diluent food only, being allowed while the bilious symptoms continue.

Having removed the source of the jaundice, that disease, or rather *symptom* (as in such a case it may be regarded), will soon disappear. But as it is of great consequence to endeavour to guard a patient from a recurrence of these painful complaints, we ought to take the opportunity, while the jaundice still remains, of endeavouring to correct the hepatic function, and to

improve the general health. For this purpose, mercury can seldom be dispensed with, but it must be combined with aperient and anodyne medicines, and used as an alterative rather than a sialogogue. In such cases, and in all functional derangements of the liver, I consider the blue pill as the best mercurial preparation; I administer it, however, in such small quantities as may to many appear ridiculous in the present day, when overdosing with mercury is unfortunately so much in favour. But my experience has taught me, that when the object is to improve the functional operations of the liver, a quarter or half a grain of blue pill in the twenty-four hours, properly combined with other medicines, and persevered in for a sufficient length of time, is more effectual than larger doses, however carefully exhibited. Indeed the popular system at present is not unlike the proceeding of an Irish servant of a gentleman whom I once attended, who, having had a box containing twenty-four blue pills sent him, with the usual direction of "two at night and two in the morning," swallowed them all at one dose, and expected no small credit for his ingenious expedient for saving both time and trouble.

Gall-stones do not always pass into the duodenum; instances having occurred, in which, by the usual process of inflammation of the gall-bladder, consequent adhesion to the neighbouring parts, and ulceration, an opening sufficiently large for the passage of the stone has been formed, and the stone has found its way into other portions of the intestines. On other occasions gall-stones, and those of an immense size, have reached the surface through the walls of the abdomen by a similar process.

It only remains that I should say a few words on jaundice having its source in obstruction to the passage of bile, from tumours within the abdomen. When an attack of jaundice gradually takes place, unattended by severe pain, or other symptom of gall-stone, and with little appearance of constitutional irritation, we should carefully examine the abdomen. Of course, if there be a gravid state of the uterus, or evidently swollen mesenteric glands; or if there be a swelling referrible to the pancreas, we may conclude that we have found the cause of the icteroid affection, and that any good which is to be done must be attained by acting on the more important disease. Pregnancy will take its own time; but in most other cases in which jaundice arises from enlargements, or from tumours within the abdomen, it too often happens that little permanent good is to be done by medicine. The progressive improvement of pharmacy, however, is daily rendering this branch of the healing art less hopeless. Leeches, blisters, the persevering use of iodine, occasional alterative courses of mercury, and of purgatives, may enable us, by at least reducing such tumours, to remove the jaundice. But the farther treatment of such cases does not come within the limits which I have prescribed for myself in the present work.

There still remains one point to which it is necessary to advert. Uterine affections are frequently attended by a jaundiced state of the skin. This symptom, in such cases, belongs to the deranged state of the balance between the secerning and absorbing systems, which affections of the uterus produce over the whole body, and in which, generally speaking, little good is

to be done by limiting our attention to the liver, or any other single disordered organ, so long as the primary source of disordered function exists; although, no doubt, like other symptomatic affections, the hepatic derangements will sometimes continue after the uterine affection has been removed. In these circumstances the prescriptions below may be usefully resorted to.*

* ℞ Pil. hydrarg.
Aloes.
Ext. hyoscyam. a. a..... ℈ i.
Misce et divide in pilulas xii. One every night at bed-time.
℞ Ferri tart..... ℈ i.
Potassæ tart..... ʒ i.
Misce et solve in aquæ tepid. ℥ viii. To be taken every morning, two hours before breakfast.

DISORDERS OF TROPICAL VALETUDINARIANS.

THE irregular dyspeptic affections to which tropical valetudinarians are liable, generally called "*bilious*," are too much as a matter of course ascribed to the liver. They might, on very many occasions, with more justice be referred to derangement in the duodenum, a portion of the intestinal canal which has lately obtained something of its due importance in reference to indigestion, and which cannot be sufficiently considered by practitioners who hope to do good in the treatment of dyspeptic, bilious, or hypochondriacal disorders. But although the complaints of Indian invalids are generally referrible to this the second stomach, still the liver always requires attention. No doubt it is often rather by the omission than by the administration of medicine, that we are to do good; for unluckily those who have gone through the system of self-physicking, so common within the tropics, almost invariably act on the belief "that they know something of their own constitutions;" while, as nine out of ten of them have an affection for mercury in one shape or another, their diseases are often the natural effects of over-indulgence in their favourite remedy. Such persons, I have reason to know, are

very apt, where they suspect the doctor to be chary of his mercury, to strengthen his prescription with calomel or blue pill from their own store, particularly if they fancy their medical attendant to be practically unacquainted with tropical constitutions. Nor is it wonderful that we should find it difficult to persuade a man, who has been accustomed to take ten grains of calomel as a common dose, that half a grain of that preparation, or of blue pill, will be of any service to him. Cases indeed frequently occur in which, as in that of Lieutenant C——, page 104, all that is necessary is to suspend the use of mercury, substituting bitters and aperients, with moderate diet.

In former times the principal source of injury to those who had been on service within the tropics, arose from their habits of indulgence in wine or spirits. Sangaree, and brandy and water, have, however, had their day; and, so far as my experience goes, I should say that more evil results, in India at least, from over-indulgence in food, than from habits of drinking. Certainly tropical valetudinarians in this country have generally more to fear from the full enjoyment of "*too good an appetite*," than from almost any other cause. Restrictions in this respect often receive but too little countenance from the over-kind home friends of Indians, who, happy to find "*their invalid*" in a fair way to fatten himself, throw every temptation in his way. The usual effect of a change of climate on a European, who has come home from tropical countries for the recovery of his health, is to produce an appetite wholly disproportionate to the powers of his digestive organs. Over-indulgence in

food calls for his old dose of calomel; and the good effects which, with a little management, might result from his native air, are completely counteracted by his own want of self-command, the mistaken kindness of his friends, and the too frequent use of a deleterious medicine.

To an Indian on furlough, nothing can be more important than the management of his health, during the first year of his residence at home. However much the sea voyage may have benefited him, he must on no account be led to consider himself emancipated from the necessity of attending to the object for which he has left his duty. He should not only restrain his appetite, but regulate his diet in the most careful manner; avoiding the many temptations which the habits of society, or the kindness of his friends, may hold out. Vegetables and fruit are what are generally found most difficult to resist; and, unfortunately, these are the very articles which, in most instances, ought to be cautiously avoided.

The bowels require very great attention, and the endeavour should be to produce regularity with the least possible quantity of medicine. A grain of aloes or of colocynth, or three grains of rhubarb in the form of a dinner pill, will usually prove sufficient; and the invalid should on no account dose himself with calomel and blue pill without medical advice.

Another of the mistakes into which returned Indians very generally fall, is that of wearing too slight clothing for the home climate. The first effect of a winter's cold seems to be to stimulate the skin of those who have been exposed to the tropical heat; and

they are consequently less inconvenienced by cold weather than even those who have never been from home. They become vain of their power of enduring cold, and every sort of unnecessary exposure is the consequence.

When, therefore, we consider that invalids from the tropics give way to the appetite for food which the change of climate produces, that on the slightest irregularity they swallow almost poisonous doses of calomel, and that they expose themselves with foolhardiness to all kinds of weather, it is not to be wondered at that so many of them resume their duty at the end of their furloughs but little benefited by their sojourn at home, and ready to sink under some one of the illnesses with which they are almost sure to be attacked on their return to India.

It is not more surprising that, after a long sojourn in the East, it should become a very common opinion among those who have come to enjoy the remainder of their life in their native country, that their health is worse in Britain than it was in the East; and that as they seem doomed to a life of self-denial, sickness, and suffering, they had better return to a country to the customs of which they have become habituated, and where, if they have not health, they have at least some object of ambition.

These, and many other evils, might be avoided by a proper self-denial on the part of those who are fortunate enough to come back from India with constitutions not irrecoverably destroyed; and by a little decision on the part of their friends during the earlier period of their residence at home. And it is need-

less to say how important a consideration this ought to be to the friends of those who have returned home for the recovery of their health, and to enjoy a short period of relaxation.

In addition to the necessity of carefully regulating the bowels, and complying with dietetic rules, tropical valetudinarians, and most of those who have been exposed to hot climates, will retain a tendency to occasional chylopoetic derangements, which, if neglected, may become a sourse of much bad health. I have constantly had under my care, since my return from India, several patients who have required from time to time short and slight courses of medicine, and to whom it is frequently necessary to give admonitions regarding their habits of living. There is something like a tide to which the system of the valetudinarian seems to be liable; and which, in a particular manner, requires to be watched by those who have suffered from tropical complaints. For example, an invalid remarks that he feels himself particularly well, "and has quite forgot that he has such a thing as a liver, or that he ever was ill." The next account of him is, that he is suffering from a severe "*bilious attack;*" which, as it came on without apparent cause, makes him very miserable, since he is led to conclude that the repeated relapses into the state of illness, to which he is liable, can only arise from the existence of some formidable organic disease. Or the spring-tide of healthy feelings does not ebb so suddenly—his ailments come more gradually upon him; he loses his comfortable night's sleep; he is no longer

alert; his good appetite is gone; in short, his "*hot weather feelings*" have returned to him.

The falling off, which a valetudinarian of observation is thus taught to expect when his feelings of health are highest, is not peculiar to the invalid. The trainer is well aware that he cannot keep the pugilist, or the race-horse, long in the highest working condition; and perhaps more sporting bets are lost from the premature training of the favourite horse, or boxer, than from the neglect of that necessary discipline. The invalid's feelings, therefore, are those natural to his system, aggravated no doubt by the condition of his health. Hence individuals, whose constitutions have suffered from the baneful influence of tropical climates, instead of taking liberties when they feel themselves to be in best health, ought most to dread and to prepare for the probable attack. An opportune dose of medicine, and a *banian day* or two, even when such precautions seem to be least required, will frequently avert a serious attack of sickness.

The illnesses to which I have found returned Indians most liable, are a tendency to slight congestion of the liver, derangement in the second stage of digestion, and a loaded and irritable condition of the head of the colon; ailments which, I need scarcely say, are manageable if attended to in time, but which become very troublesome if neglected.

The case of a gentleman, who has been under my care for many years, will, I think, best illustrate the progress of a tropical invalid's health during a series of years, and its gradual improvement when properly attended to after his return to Europe.

Mr ——— went out to India in 1813, and has been twice obliged to return home on sick certificate. He first came under my care in 1825, in India, three years after his second arrival in that country. At that time a long course of chylopoetic derangements had, as is common, ended in a dysenteric attack, in which a small portion only of the sigmoid flexure of the great gut had become affected with that disease. The scanty dysenteric evacuations alternated with profuse lienteric discharges, which at one time were of a shining grass-green appearance, at another of the deepest ochre yellow. The dysenteric stool was as usual attended with tenesmus and straining. The lienteric evacuations were to the extent of several quarts each. I mention this complication of symptoms, because I have found it a common one, in cases in which long-continued tropical illnesses have ended in a dysenteric attack. Mr ——'s complaint was overcome with great difficulty, his bowels continuing to require unremitting attention. He was consequently seldom off my sick list until February 1827, when, in consequence of his constitution being seriously undermined, I found it advisable to send him to England on sick certificate. And, as I arrived in this country a few months after he reached it, I have had an opportunity of watching the progress of a case, in which I naturally took a great interest, in a more congenial climate than that in which I first became acquainted with it.

When I renewed my attendance on this gentleman, five years ago, he was thin and sallow; his appetite was good, and there was no appearance of derangement in the first process of digestion. His bowels

were habitually loose, and although he sometimes passed scybalæ, he had no figured stools. His sleep was heavy and unrefreshing, and he awoke with a dry, brown, loaded tongue. He had much flatulency, and there was from time to time a dull and deep-seated uneasiness, not, however, affected by pressure, in the right hypochondrium. Pulse slow and weak; temperature of skin natural; he was distressingly listless, and much annoyed by a scorbutic state of the skin. When suffering from an aggravated attack of these derangements, the urinary organs became disordered, the secretion being morbidly increased, attended with great irritability of the bladder, so that urinary calls were extremely frequent. At first Mr —— was almost constantly in the condition which I have described, and he consequently required, during the first year of his residence at home, a succession of aperients, alteratives, and tonics, varied according to the set of symptoms which for the time were most prominent. When I found him suffering from a paroxysm of his disorder, I generally commenced the alterative course with a dose of oil and a few drops of laudanum. I subjoin, in the foot note, a few of the alterative prescriptions which I found it necessary in succession to prescribe for this patient.* The aperients I have used have been the tinc-

* ℞ Pil. hydrarg.....gr. xviij.
Pulv. rhei.....gr. xxiv.
—— ipecac.....gr. vi.
M. ft. pil. xij. una om. noct.
℞ Pil. hydrarg..... ℈ ii.
Aloes..... ℈ i.
M. ft. pil. xij. ut sup. sum.

ture of rhubarb, the compound rhubarb pill, aloes in the shape of a dinner pill,* and, with a view to the condition of the skin, the sal polychrestus. I alternated quinine with various chalybeate preparations. For the first eighteen months, or two years, Mr —— was almost constantly under my care, sometimes no doubt in consequence of imprudence in diet, but principally

℞ Pil. hydrarg. .....
Ext. hyoscyam. ..... } a. a. .....gr. iij. M. ft. pil.
Pulv. zingiber. .....

Sign. To be taken at bed-time, and a dose of oil in the morning.

℞ Calomel. .....gr. vj.
Pulv. antimon. .....gr. xij.
Colocynth. ..... ℈ ij.

M. c. tinct. opii gt. xij. et divide in pil. xij. una om. noct. sum.

℞ Pil. hydrarg. ..... ℈ ii.
Pulv. ipecac. .....gr. x.

M. ft. pil. xij. ut sup. sum.

℞ Pil. hydrarg. .....gr. ii.
Pulv. ipecac. .....gr. i.
Pulv. opii. .....gr. ss.

M. ft. pil. h. s. s. mitte xij.

℞ Pil. hydrarg.
Pulv. rhei, a. a. ..... ℈ i.
Pulv. ipecac. .....gr. xii.
—— opii. .....gr. vi. M. ft. pil. xij.

These last are the pills which I have found to agree best with this gentleman's system, and he is never without a supply of them, and of the compound rhubarb pill: a course of one each night, for three nights of the former, followed by a short course of the latter, when Mr —— is out of order, puts all to rights.

* ℞ Aloes.
Sulph. Quinæ, a. a. ..... ℈ i.
Ext. hyoscyam.
G. mastich. a. a. ..... ℈ ss

M. ft. pil. xxiv. One during dinner.

from the obstinate nature of his complaints. Symptom after symptom, however, yielded. The urinary organs recovered their tone; the bowels became more regular, and the evacuations more consistent; since then, the necessity of resorting to courses of alteratives has gradually become less and less frequent. And although Mr —— always keeps a supply of alterative medicines ready for use, he does not require to have his box replenished above once in three months, and is now able to enjoy himself in society with comparatively little injury.

The treatment of this case has been assisted by frequent changes of air; the hot bath at first; sea-bathing during the season, and horse exercise. And there is every reason, I think, to hope, that although the patient's constitution was most alarmingly shattered by a long-continued course of suffering from tropical complaints, his patience and perseverance will be ultimately rewarded by the complete re-establishment of his health and strength.

The above case has proved the most stubborn of many, nearly similar in their history and result, of which I have within the last five years had the treatment; and it will serve to illustrate the necessity, not only of implicit confidence on the part of the patient, but of persevering attention to the progress of the case on that of the practitioner.

DISEASES OF CHILDREN.

A TREATISE on hepatic affections would be incomplete, were it to leave unnoticed the complaints of infancy. With reference to the diseases of children, the liver is scarcely less important, than it is as connected with intertropical diseases. It is true, we can do little more than speculate on the uses of this organ, during the earlier periods of life; but from its greater comparative size in the fœtus, and during early infancy, we are warranted in concluding that, important as its function unquestionably is in every period of life, it is of paramount importance at the outset. We find, accordingly, that the diseases of children are, either in their cause or cure, very intimately connected with the liver; and hence our attention is naturally and properly directed, in a particular manner, to this gland in the ordinary run of infantile ailments.

During the earlier periods of life, the whole powers of the system seem to be dedicated to the increase and nourishment of the body. The complaints of childhood, therefore, have generally their source in the chylopoetic viscera; and in the treatment of such complaints, we are happily relieved from all the inconveniences usually produced by the state of the patient's mind, in the chylopoetic affections of the adult.

The connection between the liver and the intes-

tines is of a threefold character; *first*, the blood, from which we are justified in believing bile to be secreted, is collected from the circulation of the intestines, and will consequently be influenced, with regard to its healthy or morbid character, by the condition of the floating viscera; *secondly*, the hepatic secretion goes directly to that portion of the intestinal canal, in which the assimilation of inorganic matter to the fluids of the body takes place, and hence we may conclude that this, the most important process in digestion, is in some degree dependent on the nature of the bile; and, *thirdly*, like all parts co-operating for a common purpose, there must be a complete sympathetic action and re-action constantly going on between the intestines and the liver.

In speaking of the hepatic derangements of the adult, I remarked, that under this head might be classed, without any very great impropriety, the larger proportion of bodily ailments. The observation is even nearer the truth as regards the complaints of children; which no practitioner can expect successfully to manage, unless he keep his eye steadily fixed on the condition of the hepatic system. I cannot better illustrate this, than by referring to the effects of calomel on children; and the observation is deserving of attention for another reason, since it shows, much better than experiments on the lower animals ever can do, the great value of this medicine in morbid affections of the liver. It is well known, and it is important that it should be so, that many nurses administer calomel to the infants under their charge with an unsparing hand. The following is an *experiment*

which I have oftener than once seen children exposed to. A nurse, or mother, has been in the habit of giving a mere infant two or three grains of calomel, apparently with very happy results. This has led to the administration of a similar dose of the same medicine to another member of the family a year or two older, but with consequences so different as to occasion great alarm; the dose, which in the infant produced a wholesome change in the alvine evacuations, and quieted the system, being found in the child of four or five years of age to act almost like a poison, producing bloody stools, and great constitutional irritation. Ignorance of this phenomenon, and of its explanation, has not unfrequently led to an injurious perseverance in the use of calomel; the derangement of the bowels, and the green stools which the medicine produces, being looked upon as a continuance of the disease; which is to be overcome, as the nurse supposes, by repeating the dose.

But it is not in distinctly marked disease only, that a judicious physician has it in his power to benefit the health of an infant. The whole system of the domestic drugging of children is full of the errors of ignorance and prejudice. Instead of adopting the great principle of interfering as little as possible with nature, we find that most nurses and mothers, from the very outset, oppose themselves as it were to nature. Thus, how often does it happen, that instead of trusting to the cathartic qualities of the mother's first milk, for removing the unwholesome abdominal secretions of the fœtal state, the poor infant, immediately on its birth, is dosed with castor-oil, and has

its stomach loaded with sweet pap; while, greatly to the mother's suffering, even days are allowed to elapse before the natural nourishment is given. It is not difficult to foresee the consequences. The bowels become disordered; regular doses of medicine are called for; anodynes become necessary to counteract the effects of the medicine, and of the unnatural diet with which the child's stomach is loaded. The result is, that the whole chylopoetic viscera are brought into a state of alternate excitement and torpidity;—the function of the liver becomes disordered;—fever, and very likely head symptoms, supervene;—and thus the child becomes the victim of a series of ailments which, although they are in due time ascribed to teething, are in nine cases out of ten the consequences of ignorance, prejudice, and mismanagement.

Nor is this all. The style of clothing is also productive of the worst possible effects. A newly born infant no doubt requires a greater degree of external warmth than is afterwards necessary; but, unfortunately, the growing power of the system to maintain a sufficiently high degree of animal temperature is overlooked. The superabundant clothing is retained; and hence we find a child of some months old not unfrequently kept, particularly during sleep, in a temperature which maintains the skin in a constant state of diaphoresis. And when we bear in mind, that heat acts as a stimulus to the liver, and that this organ, at an early period of life, is almost in a state of morbid enlargement, we need not be surprised at its nearly constant disorder during infancy, or at the

consequent favour which calomel has obtained among nurses.

In connection with this subject, I may here notice another source of injury to the health of infants, which is attended with evils nearly as great as those which result from the practice of domestic physicking and overclothing. I allude to the dieting of nurses. I have no hesitation in saying, that females of every rank, employed in this important duty, carry overfeeding to an injurious extreme. We can purge the child through the system of the nurse, and of course it follows, that food or drink of a stimulating nature must soon extend its influence from the nurse to the child. The effects of the mistaken system which is pursued in feeding nurses may be illustrated by a very common occurrence. A mother is unable to nourish her infant, and a healthy woman is selected from the lower class of society, who heretofore has been of course exposed to the privations incident to her rank in life. She is immediately brought into confined apartments, an overheated bed-room, and a very warm bed. She is fed on quantities of rich and nourishing food, and is farther encouraged to fill an already overloaded stomach, by the temptations of tea, bread and butter, and is perhaps allowed porter or ale in unmeasured quantities. In such circumstances we need not wonder if we find the nurse leave her own infant in robust and rosy health, while her less fortunate foster-child pines, and becomes a puny and sickly baby.

The system which undoubtedly ought to be followed by nurses, whether mothers or hired, is to avoid all sudden or violent changes of diet. A female,

while nursing, has generally her appetite increased, and is inclined to take more liquid than usual. In such circumstances, of course, her diet should not be stinted; but what she eats should be plainly dressed, wholesome and nourishing, and, above all, it should be taken in moderation. Stimulating condiments are worse than unnecessary. Wine and malt liquor will often do more harm than good, except when taken in very small quantities; and a nurse may rest assured, that whatever occasions heat of skin and febrile restlessness, is injurious both to herself and her charge. Heated and close apartments are particularly to be avoided; so should overloading the bed with blankets, or closing it in with thick bed-curtains; and if the nursery be not a very large and airy apartment, a fire, during the night at least, should not be permitted. I have merely to add, that it is particularly unfortunate for the child to have a nurse whose catamenia go on while she is nursing; and that nothing is more liable to expose the child to this disadvantage than overfeeding and overheating the nurse.

Before proceeding to the purely professional part of this subject, it is necessary that I should say one word with regard to spoon-feeding. There is not, in my opinion, a greater mistake in the rearing of children, than the very common one, of commencing prematurely to give what is called *substantial* food. It is perhaps natural, particularly where there is a hired nurse, for the mother and other female relations of the child to desire to partake in the pleasure of feeding it; and as they erroneously suppose that their efforts will contribute to fatten and strengthen the infant,

they are usually anxious to begin operations early, and, when they have commenced, to give the food in large quantities. When an infant overloads the stomach with milk, vomiting ensues, and the surplus is discharged; but when the stomach is gorged with cruder aliment, although the milk may be vomited, the unnatural food remains; and the digestive organs being unprepared for this new substance, it is passed on into the bowels very little altered; while the child, instead of being nourished by this addition to its diet, is truly worse than it would have been even with an under supply of milk.

It is well known that a healthy woman can afford more than sufficient nourishment for one child; and with regard to the usual excuse for the early commencement of spoon-feeding, viz. that it prepares the child for weaning, I have only to observe, that it would be better to avoid such a preparative, and to be guided in that important change by the progress of teething. Instead therefore of resolving, as some mothers do systematically, to wean their children when they attain the age of seven or eight months, it would be far better to attend to the progress of their teeth, and not to make the change, until Nature has thus pointed out that the digestive organs are prepared for a more substantial description of sustenance. Were this made the rule, and were the commencement of teething less interfered with by injurious articles of diet, we should hear less of *weaning brash*, the *green scour*, and the other bilious and head affections, which are universally ascribed to teething, or to weaning. As a general rule, I should say that it is quite soon enough to com-

mence spoon-meat in the sixth or seventh month of the child's age; and as weaning should never take place until teething is well advanced, I am never averse to see nursing going on until the eleventh or twelfth month.

There is a source of injury, however, of which I have seen several instances, which deserves particular attention. A hired nurse's supply of milk sometimes runs short; and in the hope of concealing the fact, she is in the practice of making up for the deficiency by privately feeding the child on portions of her own food. This is, I need hardly repeat, a hundred fold more pernicious than it would be to leave the infant with even a scanty allowance of milk; and as the evil is a serious, and not an uncommon one, it is the duty of the mother, or of those interested in the child, to guard against it by watchful attention to the habits and practices of the nurse.*

* In India mothers ought to be watchful lest the native nurse should attempt to quiet a fretful baby by administering opium—a practice which I have seen productive of the most alarming consequences.

IRREGULAR COMPLAINTS OF INFANCY.

THE importance of a gland cannot be better displayed than in its diseases; and, unhappily, the importance of the liver, according to this criterion, is sometimes developed too early, in the fatal malady of icterus infantum; a disease which is almost always connected with some malformation in the biliary apparatus. Thus, it has happened not only that individual children have been cut off in the first days of their lives, but, in some instances, every child in a family has successively fallen a victim to incurable jaundice within a few weeks after birth. But although infantile jaundice be usually a fatal disease, we must not view every case of jaundice which occurs soon after birth as incurable. Like the jaundice of the adult, this disease in infancy may be owing to a temporary interruption to the discharge of the bile into the duodenum, or to absorption of this fluid from the intestinal canal. The incurable jaundice, on the other hand, most probably arises from a failure of function in the *pori biliarii*, so that these ducts do not carry off the secreted bile.

If, in the treatment of the jaundice of infancy, emetics, the hot-bath, and aperients, fail in effecting a cure, it is advisable to try mercury, beginning with one large dose, followed by a purgative, and after-

wards giving very small doses frequently repeated. I have found the following formula produce the best effects in biliary and other derangements of infancy.

℞ Calomel..... gr. i.
Pulv. antimon..... gr. ii.
Sach. alb..... gr. xii.
Tinc. opii..... gtt. iii.

M. tere simul optime, et divide in pulv. xii. One to be given to the child every two hours in a little treacle.

If the object be to act on the bowels, half a grain of rhubarb may be added to each powder, with which it should be carefully mixed. The effects of thus giving almost homoiopathic doses of calomel have often surprised me. The medicine of course is only repeated frequently where it is necessary to produce immediate effects.

The complaints of children at their commencement are frequently overlooked, and are consequently found in an advanced stage when brought under the notice of the physician. Thus a child of five or six months old is attacked with griping; and it is only after giving the little sufferer repeated doses of Dalby's carminative that the mother or nurse obtains an undisturbed night's rest for herself. A looseness follows, the discharges being at first undigested food and curdled milk. A dose of castor oil or Gregory's mixture is given by the nurse, and green-coloured stools are brought away. As, however, the purging and griping continue, Dalby is again resorted to; but as the convenient reference to *teething* satisfies the mother that the ailment is of little consequence, the same system

of domestic physicking goes on. The child now becomes feverish, or great alarm is suddenly excited by something like a convulsive fit; the hands and feet become cold, attended with flushing of the face, and perhaps the whole body becomes stiff; and these symptoms are, in some cases, followed by alarming torpidity. The nurse and mother, and often the doctor, apprehend hydrocephalus; and the condition of the head absorbs all their attention.

The true source of such a course of symptoms is to be found in the chylopoetic viscera, and particularly in the hepatic system. The extent, indeed, to which deranged secretion may take place from the liver of an infant is extraordinary. In such a case as I have sketched, we find the patient passing for days, and even weeks, almost constantly, stools composed apparently of nothing but depraved bile, ending at last in a state of alarming marasmus; all which might have been avoided by a little attention in the outset. In nine cases out of ten, the head symptoms of infants are traceable to the primæ viæ; and although we may be unable to say why disorders in the function of the liver should produce so much suffering in the head, it is nevertheless certain that most of the symptoms of disease in the head may originate in biliary derangements; and, what is of still greater importance, may be removed by remedies which we know to act directly on the liver. Hence it is that calomel acts very like a specific, in removing what are considered symptoms of approaching water in the head.

Treatment of the Irregular Complaints of Infancy.—When the bowels of a child have become

disordered, our first object ought to be to ascertain, if possible, whether the derangement be attributable to improper diet administered to the patient, or taken by the nurse, and acting through her. It is also right to inquire at the latter whether her catamenia have come on. When that is the case, the nurse's health will require to be watched; and, in many cases, all that is necessary is to correct what is wrong in either of these respects. Improprieties in the child's diet, however, may have been persevered in so long as to have produced more serious disorder in the primæ viæ; and in that case it will be found that the patient is suffering almost constantly from griping—that pressure on the stomach occasions uneasiness—there is a puffy fulness in the epigastric region—that the stools are frequent, green, and frothy—the urine scanty and high coloured—the breath has a sour and sickly smell—and the child is feverish and restless. In more severe cases, the eye becomes dull, the head hot, and the mouth and lips dry. In such circumstances, no time must be lost in prescribing calomel. One, two, or even three grains ought to be exhibited without delay, followed by a dose of oil, or of rhubarb, or of the compound powder of scammony of the Edinburgh Pharmacopeia. The head should be kept cool, if necessary, by the application of cold wet cloths; or it may even be advisable to apply a leech or two to each temple; bleeding in such cases, however, must be resorted to with great caution. Such treatment will usually produce a material improvement in the symptoms. But an irregular state of the bowels will continue, the stools being probably still

green and unwholesome. It will not be necessary, however, to persevere in giving large doses of calomel. A very small quantity of that medicine will in most cases prove sufficient. Thus, one-twelfth of a grain, as in the prescription below,* given two or three times a-day, or in the morning and evening, as may appear necessary, will prove the most efficient means of restoring, not only the functions of the liver, but of all the abdominal viscera; and the practitioner ought immediately to take very decided steps for putting an end to improper feeding, and for restricting the infant entirely to the breast, unless where it has been already weaned, or where its teething has advanced. If the nurse's milk have failed, it may even be advisable to procure a fresh foster-mother.

But the symptoms above described may not have been so easily removed. Notwithstanding a large dose of calomel, the infant may continue to suffer from alarming torpidity. Occasional screaming will prove that it still suffers pain. Its legs will be drawn up,—its abdomen

* ℞ Calomel ..... gr. i. vel ii.
Pulv. Jacob ..... gr. ii. vel iv.
Pulv. rhei ..... gr. iii. vel vi.
Sach. alb ..... gr. x. M.
Tere simul optime, et divide in pulv. xii.

Or if it should appear to be necessary to attempt to diminish the number of stools while unaltered in their character, the formula may be as follows:

℞ Calomel ..... gr. vi. vel ii.
Pulv. cret. prep ..... gr. vi. vel xii.
—— Antimon ..... gr. iii. vel vi.
Tinct. opii ..... gtt. xii.
M. et divide in pulv. xii.

will feel hard—its feet and hands cold—its head hot—its pulse very quick, breathing rapid; and, what are still more unpleasant symptoms, it has constant vomiting, with constipation of the bowels. In such a case, a second large dose of calomel ought to be administered without delay; leeches must be applied to the temple; the body put into a hot-bath; and cold continued to be applied to the head; it being sometimes advisable even to use ice for this purpose. A large purgative glyster must be thrown into the bowels; and if, after all this, the head symptoms should continue, a blister ought to be applied to the nape of the neck, and by and by another, if necessary, to the occiput; the calomel being repeated in grain or half-grain doses every six hours; alternating it with two or three grains of rhubarb, and persevering until the symptoms are relieved, or the mouth becomes affected. The abdomen ought to be carefully examined, and should there be any reason to believe that there is morbid sensibility at the pit of the stomach, or in the region of the liver, a large blister ought to be applied at the point where pressure seems to cause uneasiness. I have indeed found great benefit from blistering the epigastric region, even when I could not detect any particular morbid sensibility. If the urgent symptoms should yield, the after-treatment of such a case will be similar to that prescribed for the milder attack.

Hitherto I have said nothing of attention to the state of the gums, not because I consider that their condition can be safely overlooked, but because I regard the chylopoetic viscera and the head as of primary importance, in the treatment of cases such as

those now under consideration. But even were these complaints less connected with the progress of teething than in many cases they are, the prevailing opinion, at least with mothers and nurses, that all such ailments have their source in teething, renders it necessary for the practitioner to attend particularly to the state of the mouth, as otherwise he incurs some hazard of having his instructions neglected. Teething, however, is very important. In truth, the mouth is a portion of the chylopoetic viscera; and whether as a cause or an effect, the progress of teething demands attention in the treatment of the diseases of infancy. In many of these cases, therefore, it may do good, and never can do harm, freely to scarify the gums.

But although, in the treatment of the diseases of infancy, the liver cannot be neglected, we must be careful, on the other hand, not to ascribe too much to this organ. Whatever may be the extent of its uses indeed, its function is at all times of paramount importance in the economy of the system; but whether we hold that in infancy it is in more active operation than in after life, or merely that it is more predisposed to derangement, still it will not do to look upon the liver as the primum mobile of every infantile ailment. It is enough that we should be impressed with the importance of attending particularly to the function of this viscus, in the rearing of children, and in the treatment of the complaints of infancy; and that we keep in mind, that when any portion of the system of the child is seriously deranged, the liver seldom remains neuter. During that early period of life the head, stomach, duodenum,

liver, and bowels, act and re-act on each other to a greater extent, and with a more intimate sympathy, than in after-life; and hence it happens that, even where the liver is not the immediate source of the disease, it may ultimately come to have a powerful effect in continuing or aggravating an illness.

I have said enough, perhaps, on this portion of my subject. Still, I think it necessary to say a few words respecting those morbid affections of children, in which the condition of the bowels is the reverse of that which I have just described. I allude to cases in which the accession of morbid symptoms has been attended with constipation. In such instances, if the state of the head has not been the remote cause of the disease, there will be at all events reason to believe that it will soon become the chief source of the symptoms. The progress of such a case is very insidious. A child's bowels become costive; but they are easily moved by a dose of domestic medicine, which soon requires, however, to be strengthened. The colour of the motions is unnatural, being sometimes almost white, and at other times dark-green. The appetite is irregular, the nights restless, and the child is occasionally feverish. His looks at last alarm the mother, and medical aid is called in. The child's bowels are now found to be extremely obstinate, and the stools very light-coloured; the urine scanty and high-coloured; the eye dull; the complexion unhealthy; the lips dry; the tongue white; and the breath offensive. The child is very fretful, starts in his sleep, and occasionally awakes with a scream. The abdomen is tumid, and there is pain, or morbid sensibility, over the stomach,

and sometimes in the right side. When old enough to describe his sensations, the child complains of his head, or he lies on the nurse's shoulder languid and moaning. He is exceedingly capricious, taking a fancy to food which he formerly disliked, or attaching himself to an individual, from whom it is difficult to remove him, and showing a dislike to those to whom he was formerly most attached. When the bowels are moved by medicine, the stools are ill coloured, and sometimes even pitchy and very offensive.

It is hardly necessary to say, that such symptoms must be regarded as premonitory of a very serious affection of the head. Still, however, there may be no immediate necessity for regarding the head symptoms as the chief object of attention; and it will be very generally found, that by prompt attention to the stomach, bowels, and liver, the whole of these very unpleasant symptoms may be removed. But no time must be lost; for high febrile symptoms may suddenly supervene, attended with great irritability of the stomach, obstinate constipation, irregularity of the pulse, squinting, and all the other indications of incipient hydrocephalus.

The treatment of such a case consists chiefly in acting fully on the bowels. We should commence with a large dose of calomel, followed in a few hours by a smart purgative; the compound powder of scammony being perhaps the best. Calomel should then be repeated, in combination with rhubarb and antimony, in small doses frequently administered. Any local symptoms, whether in the head or abdomen, which may occur in the course of the treatment, must be

carefully attended to; and the practitioner ought not to rest satisfied until the stools are natural in appearance, and the bowels act without assistance. The parents ought to be informed that the patient has made a narrow escape, and frightened into the necessity of paying unremitting attention to the diet, exercise, and whole management of the child.

ON THE AGE AT WHICH CHILDREN BORN IN INDIA SHOULD BE SENT TO BRITAIN, AND ON THE MANAGEMENT OF THEIR HEALTH IN THIS COUNTRY.

I SHALL conclude by a brief notice of a subject of the highest importance to a class of individuals in whom I take a very deep interest. No circumstance in the course of the oriental exile to which so many of our countrymen are subjected, is productive of more misery and distress, than the necessity which is imposed on parents resident in India, of separating themselves from their children, at a period when the children themselves are not only most interesting, but when the fostering care of the parents is most needed. The consequence is, that the conflict between affection and duty is sometimes unfortunately prolonged, to the serious injury at least of the child. It may therefore prove acceptable to my eastern friends, if I state the result of my experience on this interesting subject, with a view to the deducing of some rules for the guidance of parents who may be obliged to remain in India.

The climate of India is by no means injurious in the earlier years of children born of European parents. On the contrary, I should be inclined to re-

gard a tropical climate as one in which, with a little management, that period of life may be got over with even less risk than in our own country. In India, no doubt, infants are liable to bilious attacks, fevers, and bowel complaints; but, on the other hand, they escape glandular affections, chest complaints, and all those derangements which are generally supposed to originate in scrofula, but which truly belong to our variable climate. Another advantage within the tropics is, that hooping-cough, measles, and scarlet fever, are comparatively mild affections. There is, therefore, no general reason, up to the fourth or fifth year, for removing children from a hot climate; although, of course, individual instances occur, which render such a removal expedient at a much earlier period.

I have myself witnessed the most extraordinary effects produced even by the first steps towards a removal to Europe. When I left India, I brought with me a poor little patient of mine, of nearly three years of age, who had passed through two years of such a succession of illnesses as few have survived. The nurse had concealed the failure of her milk, and before this was discovered, the child had been nearly starved. From that time until he left India, he was scarcely one day free from sickness; and when put on board ship, he was reduced to skin and bone, and could hardly hold up his head. His digestive powers were apparently gone; the function of the liver was in a very depraved condition; and, as might have been expected, the bowels were alarmingly disordered. Such, however, was the effect of the voyage, and of a little care-

ful treatment, that, on his landing in England, the child was in active, lively health, and is now a healthy and very promising boy. I give this as an example of the advantage which may result from sending a sickly infant to Europe, even when in the most alarming state of illness. In the instance alluded to, the child was brought from a distance of upwards of two hundred miles in the interior, before embarkation.

Having now had a good deal of experience in this matter, I am enabled to say, that the age at which a little Indian reaches this country with greatest benefit, is about five years. No doubt, younger children may be safely sent home; but considering the general healthiness of children in India, up to the fourth or fifth year, and the risk which younger children run of being neglected on board ship, by the nurses and servants to whose charge their parents are usually obliged to commit them, I see no advantage in an earlier removal. I have seldom found children of four or five years old bring with them any symptoms of tropical disorders. Their liver and bowels are easily managed; and the change of climate seems to come at the time best calculated for doing good. They speedily lose the pale sallow look, peculiar to children born in India. On the other hand, when they are allowed to remain in that country until they have reached their seventh or eighth year, they are extremely liable to functional derangements of the liver, and are long of attaining the healthy look of home-bred children of their age. Where, again, children are detained in India until their tenth or twelfth

year, they seldom or never attain the look of British born children.

In the management of children thus sent from India, the mistake most generally fallen into is that of administering unnecessary doses of mercury. The prescriptions which they frequently bring along with them from their Indian medical attendant are apt to lead to this mistake; or perhaps the *experienced* nurse who has had charge of them on the voyage, has been in the habit of administering this medicine freely; or, as is also very common, the home practitioner believes, that because they have been accustomed to mercury in India, it is indispensable to them in this country. From one or other of those causes, it frequently happens that the children suffer seriously from the over-administration of calomel.

In my own practice in the management of children sent home from India, I have found very little use for powerful doses of this medicine. The course, on the contrary, which I have pursued, has been to pay strict attention to diet and exercise; to prevent, as far as possible, over-clothing and over-heating the child, an error into which those having charge of little Indians are very apt to fall on the first arrival of the children in this country. Instead of this, where the child is otherwise in good health, my advice invariably has been, that the day-clothing should be light as well as warm; that during the night no more than two plies of blankets should be permitted; that the child should not be allowed to sleep in his flannels; and that his bed-room should be airy and without fire.

When medicine is necessary, castor-oil, Gregory's mixture, infusion of senna, or some other gentle purgative, will usually prove sufficient. Where there is a tendency to bilious affections, calomel may be necessary; but, as will be seen in the sequel, exceedingly minute quantities of this medicine are, in my opinion, preferable to larger doses; and in the ordinary case, even in these small quantities, it will not be needed. In no such case ought calomel to be exhibited as a purge.

Anglo-Indian children sometimes suffer from over-indulgence in the fruit or vegetables of this country. Potatoes, in particular, are extremely apt to be passed on by the stomach undigested, and to become a source of irritation to the chylopoetic viscera and bowels. This ought to be borne in mind by the medical attendant, and the requisite directions given to those in charge of the children; and I may add generally, that although these young strangers require some extra attention from their medical attendant on their first arrival, our great object ought to be to assimilate, as speedily as possible, their constitutions and habits to those of their companions who have been born in this country.

It may serve to illustrate the views which I entertain as to the best mode of treating the ailments of patients of this class, if I subjoin a series of prescriptions, such as I have lately used in the case of a delicate little Indian, who has been under my charge for the last six months. This boy arrived in Britain when about three years of age, having accompanied a brother and sister a few years older than himself, un-

der the immediate charge of one of those *voyagers* who make a livelihood by undertaking such charges. This person, however, had not performed her duty very creditably; for, in addition to other neglects, the children, on reaching England, were found to be suffering from a cutaneous distemper, the obvious result of inattention to cleanliness. But the youngest of the children required most of my attention. He was thin, with a protuberant belly; his stomach and bowels were much disordered; his colour exceedingly unhealthy; and he was very liable to bilious attacks, accompanied by cough, with expectoration and vomiting of large quantities of phlegm.

The following prescriptions will show that at first I found it necessary oftener than once to administer calomel in large doses. Latterly, however, very small quantities of this medicine have proved sufficient. The bilious attacks seem to have ceased; the child has become plump and stout; there is no longer any unhealthy fulness of the abdomen; his skin is smooth, and his colour healthy; so that I have every reason to hope that he is now as well as if he never had taken a dose of calomel. But still he requires from time to time a *homoiopathic powder* at bed-time; and occasionally the assistance of some ipecacuan wine to get rid of phlegm from the chest and stomach.

The dates of the prescriptions will show the progress of the case.

1832. *June* 12*th*.—℞ Calomel.....gr. i.
Pulv. antimon.....gr. ii.
Sach. alb.....gr. iii.
Ft. pulv.

To be taken in treacle at bed-time, and a dose of oil to be given in the morning. An expectorant mixture was also prescribed.

13th.—℞ Calomel.....gr. ii.
Pulv. rhei.
—— antimon. a. a....gr. vi.
Sach. alb.....gr. xii.
Tere simul opt. et divide in pulv. xii.

One every night at bed-time. A dose of oil or of senna to be given occasionally in the morning.

28th.—Rept. pulv. alterant. *u. a.* xii.

16th July.—℞ Calomel.....gr. i.
Pulv. antimon.....gr. ii.
Sach. alb.....gr. iii.
M. ft. pulv.

To be given at bed-time, and oil in the morning.

18th.—Rept. pulv. alterant. xii.

August 7th.—℞ Calomel.....gr. ½.
Pulv. antimon....gr. i.
Sach. alb.....gr. v.
M. ft. pulv. h. s. s.

11th.—℞ Tart. antimon... gr. i.
Sach. alb.....ʒ i.
Aquæ.....℥ vi. Solve.

A tea-spoonful every half hour.

℞ Pulv. rhei.....gr. v.
Magnes.....gr. x.
Pulv. zingib.....gr. ii.
M. ft. pulv.
To be given in the morning.

August 15*th.*—℞ Pulv. ipecac.....gr. v.
Emetic to be taken immediately.
℞ Calomel.....gr. iii.
To be given at bed-time, and oil in the morning.

16*th.*—℞ Calomel.....gr. ii.
H. s. s.
℞ Pulv. scam. comp. gr. viii.
To be given early in the morning.

17*th.*—℞ Calomel.....gr. i.
Pulv. rhei.
—— antimon. a. a. gr. vi.
Sach. alb.....gr. xii.
Misce, et divide in pulv. xii.
One occasionally at bed-time.

Sept. 11*th.*—Rept. pulv. alterant. xii.

Oct. 21*st.*—℞ Vin. ipecac.....ʒ ii.
Forty drops to be given as directed, when the child is troubled with phlegm.

Nov. 22*d.*—Very few of the last supply of powders have, as yet, been used, and medicine seems to be daily becoming less necessary.

My general directions have been, that the clothing should be warm, but not oppressive, with wadding over the chest; the diet rice, bread, porridge and milk, some animal food once a day, very few potatoes, no fruit, and as few sweetmeats as possible. No rewards or punishments through the stomach.

THE END.

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